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The Minnesota Occupational Rating Scales *And* Counseling Profile

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UNIVERSITY OF MINNESOTA
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Preface

Ideally, vocational guidance could be placed on a satisfactory scientific basis if successful workers in a host of different yet representative occupations could be tested with an extensive battery of aptitude, ability, and interest tests and the results summarized by grouping together those occupations which roughly require the same pattern of test scores. This is an ultimate aim of vocational psychology, and extensive research is being conducted to achieve this end.[1]

In the meantime, counselors are confronted with the task of imparting occupational information and of aiding counselees to make sensible vocational choices from among a bewildering number of jobs comprising the world of work. Without doubt, a classification of occupations based upon the pooled judgments of vocational psychologists in regard to the abilities required will meet an urgent need at the present time. **The Minnesota Occupational Rating Scales,** derived in this manner, are presented in the following pages as an intermediate step in the development of an objective and scientific program of guidance.

No claim is made that the ratings are anything more than the "pooled judgments of vocational psychologists." Nevertheless, these judgments are believed to yield information of value in our struggle to understand occupational requirements in terms of human abilities. In this connection it is of interest to note that the vocational guidance program of the British National Institute of Industrial Psychology has developed a similar type of occupational rating scale.

Although our ratings are based on the combined ratings of competent judges and not upon the basis of objective test scores of successful workers, one should keep in mind that these judgments have been guided by extensive knowledge of available objective evidence. Furthermore, it should be remembered that combined judgments are likely to be far more reliable than the judgments of any one person, even though that person be a vocational expert. It is for these reasons that we have confidence in the usefulness of the occupational information made available in our scales. We believe that counselors, teachers, and those

[1]Trabue, M. R., "Functional Classification of Occupations," **Occupations,** 1936, 15, 127-31; Stead, W. H., Shartle, C. C., et al., **Occupational Counseling Techniques,** New York: American Book Co., 1940.

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seeking vocational information and advice will all find that the information is pertinent.

Differences of opinion will undoubtedly exist with reference to levels of the various abilities for many occupations in the **Scales.** The authors will appreciate criticisms pointing out apparent discrepancies. These will be extremely helpful eventually in making the ratings more accurate.

As indicated in Section I, these scales represent the contributions of many persons. We are indebted primarily to the 20 vocational psychologists and others who contributed judgments in the formulation of these scales. Miss Eleanor S. Brussell, Mr. J. Spencer Carlson, Mr. Harland Cisney, and Miss Gwendolen G. Schneidler aided in the initial stages of preparing these scales. The present writers assume responsibility for adding ratings for clerical ability, for converting the original six levels of each ability into the present four levels, and for adding a limited number of occupations and ratings.

The appendix consists of a table showing the number of gainfully occupied persons in the United States by major occupational groups and occupations from 1870 to 1930.

The ingenious **Counseling Profile** was developed by Mr. Gerken. This guidance tool facilitates the translation of case history data into terms of occupational ability patterns.

June, 1941

D.G.P.
C. d'A. G.
M.E.H.

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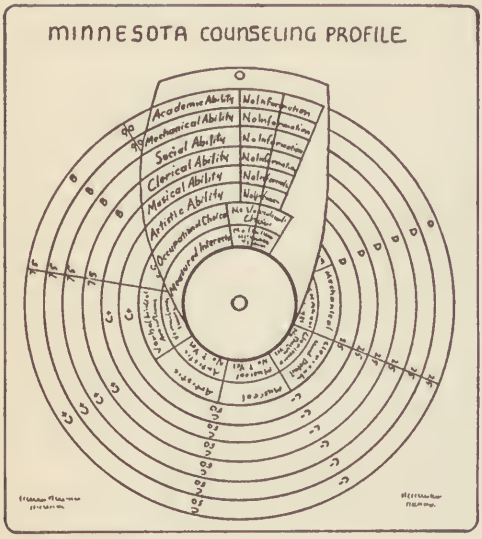
The Minnesota Counseling Profile



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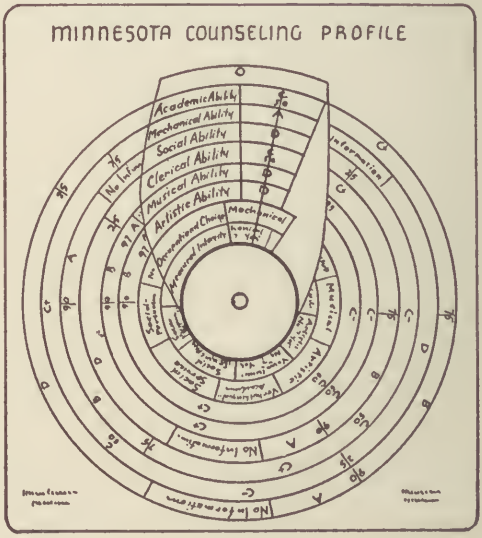

Section I

Introduction

Minnesota Occupational Rating Scales and Counseling Profile

Experienced clinical counselors, through training and long practice, have developed the ability to see a whole case in terms of the traditional psychograph. Patterns of abilities and interests for them have become easily identified. The corresponding occupational patterns, however, have been woefully neglected. These specialists often have difficulty in explaining to counselees the occupational implications growing out of pattern analysis and the concepts and assumptions upon which pattern analysis is based. Present methods of presenting the individual profile often necessitate referral to several pages of data as various areas of human behavior are explained. It appears desirable, therefore, to devise simplified and understandable methods for collecting and relating case data. **The Minnesota Occupational Rating Scales** and the **Counseling Profile** are two techniques which meet this need.

Before any explanation is offered a warning should be sounded. In no sense are these techniques to be used as devices in mechanical counseling. It can well be argued that the amateur will obtain little aid from them. Before using them in the counseling situation the user must be familiar with methods of judging and measuring in educational and vocational areas. Use assumes an understanding of the theory of aptitudes, current thinking and counseling practices in regard to special and general abilities, backgrounds in measurement techniques, job description and job analysis work, and the professional vocabulary of the educational personnel worker.

Many personnel workers who attempt to use the **Scales** and the **Counseling Profile** may be confused at first because specific job titles are subordinated to occupational groupings based on human abilities. There need be little difficulty in this regard, however, if proper use is made of the **Occupational Rating Scales** together with the explanation of each classification which is found in Sections II, III, and IV. The old confusion of myriad

job labels was difficult to cope with. Through this new kind of classification, based upon human abilities, the task of comparing human patterns with occupational patterns should actually be easier.

Uses for Scales and Counseling Profile

At first glance one might assume that the purpose of the **Scales** and the **Counseling Profile** is to furnish an aid to **service-counselors only.** This is one of its purposes, but probably of no more importance than either of two additional ones. The techniques will be useful in **teacher-training classes.** They will also be helpful as devices for supplementing verbal presentations to **guidance classes** in senior high schools and in junior colleges. With these three possibilities in mind we now discuss each at greater length.

The Techniques in Teacher Training Classes

Modern personnel workers must understand pattern analysis not only for occupational adjustment but also for educational, social-emotional, and other adjustment problems. The most common techniques employed to teach skills in pattern diagnoses are the lecture, the blackboard, and the mimeographed case history. The **Counseling Profile** does not supplant these methods. Rather it supplements these teaching techniques in a manner which sticks closely to, and is based upon, the concepts being taught.

In the course of a lecture, case data can be set up by each student on the **Profile** for discussion later in the class period, or in a personnel practice session which may follow. There is little room for misunderstanding since colors and percentile scores both indicate the position of each disk on the **Profile.** Illustrative cases presented by the instructor can be held on the **Profile** to act as a basis for questions. Of particular importance is the highlighting of missing or inadequate data in the several parts of the total pattern. Lectures and standard profiles, because of time and space limitations, frequently fail to emphasize the meagerness of information available in a given case.

In small classes the trainee can present cases for discussion which may then be duplicated by all other members of the group. This type of reference eliminates frequent reiteration of points already made. There is the further advantage of being able to

set up new cases quickly as each discussion is ended. Time usually devoted to copying data on a blackboard or to reading mimeographed or typed sheets is materially reduced.

Techniques in Teaching Courses about Occupations

Teachers of occupational information find great difficulty in teaching the important facts concerning more than 17,000 specific jobs. The usual type of classification is in terms of services to society. Even when jobs are grouped into fields such as medicine, business, etc., it is difficult to treat them in terms of the human abilities and interests involved. For this reason, the student is left uninformed as to whether or not his choice of any particular job is rational and appropriate. It is obvious that the student who has made no vocational choice merely acquires many specific facts about jobs without being aided in determining his fitness for any job or group of jobs.

There is every reason to believe that a critical study of the **Occupational Rating Scales,** classified as they are from the viewpoint of abilities and interests, will center the attention of students on the kinds of occupational information which will be most helpful to them in making wise choices.[1] In other words, the **Scales** permit emphasis upon occupational information as a means of aiding students in making their educational and vocational choices. Without this, occupational information is likely to become an end in itself without significance for the students subjected to it.

The Counseling Profile as an Aid in Service Counseling

One of the ten commandments of counseling is that each case history must be reviewed prior to each interview with a student. Certainly nothing is added to the interview if the counselor must fumble through the folder to refresh fading impressions gleaned through an earlier scanning of data. By setting the **Profile** as the case is read, the counselor can get a summarized picture for his own use in the subsequent interview. This picture may then be transferred to the **Individual Counseling Record,** a special form proposed for use with the **Rating Scales** and the **Profile**[2].

Many counselors make a practice of explaining meaningful measurements to counselees. This explanation is often not in terms of specific scores but in general terms. "Good," "high,"

and "superior" are words used to indicate upper levels of performance. "Average," "normal," and "in the middle" are generally used to describe mediocre levels, whereas "low," "not outstanding," and "below average" are frequently used to portray lower levels. The **Counseling Profile** allows the student to visualize what is meant by these terms so that he can compare himself with others in a population with which he is familiar. If the counselor does not wish the student to see certain measurements, these can be shown as areas of **no information.**

A third use is that of allowing the student to set his own assumed profile. Students often do not realize that a claimed interest is in addition a claim to certain amounts of various aptitudes and abilities. The boy who says he is interested in becoming an engineer is by implication also saying, "I possess high academic ability, outstanding mathematical ability, and an aptitude for thinking in terms of three dimensional space and the symbols which represent it." Possible contradictions are easily cleared up by requesting the student to look up the abilities and interests of the various types of engineers in the **Rating Scales,** and then by asking the boy to rate himself in each **trait upon the Profile.** The student can then compare the two. A discussion of any discrepancies between the two sets of ratings will frequently aid the student "to see himself as others see him" and to think more realistically about occupational requirements.

Valuable interview time is often wasted because the counselor must indulge in lengthy explanations of individual differences. Such explanations may often consume from 10 to 15 minutes. Even after this verbal explanation, counselors often wonder whether or not the student really understands. The **Scales** and the **Profile** can be utilized to supplement the verbal explanation. Thus there is greater likelihood of getting the ideas across to the counselee.

The color scheme of the **Profile** was adopted because of its relationship to everyday experience. In the main **red** indicates danger, **amber** caution, and **green** a clear track. Students should grasp this easily. The counselor, of course, will work from

[1]**Williamson, E. G., and Hahn, Milton E., A Syllabus for the Study of Vocations, Part I.** General College, University of Minnesota, (mimeographed) 1939, 91 pages. See Chapter VI.

[2]Additional copies of the **Individual Counseling Record** may be ordered from the publishers, Science Research Associates.

approximate percentile bands found upon the circumferences of the ability disks on the **Profile.**

A last, but interesting, possibility is the effectiveness of the **Scales** and the **Profile** in establishing **rapport.** In many instances the uncommunicative student can be reached through a profile explanation because the **Profile** itself is a visual device. The technique of explanation, followed by a request that the counselee rate himself on each of several traits, establishes a common ground for understanding.

The Scales and the Counseling Profile in Group Guidance Classes

Guidance classes established in secondary schools and junior colleges should have as one objective preparation of students for the one-to-one counseling situation. In other words, students should be prepared to understand the assumptions upon which counselors work and the terminology they will encounter when they seek an interview.

Inclusion of the job patterns in the **Scales** makes them potentially valuable in teaching courses which deal with problems of occupational choice. It is difficult to conceive of such a course not based upon individual differences, human ability and interest patterns, and job classifications.

Adoption of the **Scales** for teaching secondary school guidance classes is feasible only if instructors are competent to present information of a complex and abstract kind in simple, understandable terms, and at the same time to avoid over-simplification and false impressions. It is desirable that the instructor either be a qualified counselor, or have equivalent training and experience.

The Scales and the Counseling Profile as an Aid to Personnel Workers

Vocational counselors, and teachers of courses in occupations, have long been conscious of the rocks ahead when the boy or girl says, "I am going to be a ....." With nearly thirty thousand specific job labels to choose from, and with adequate information available for only a few, the counselor who attempts counseling upon the job label basis is likely to be lost. One way out is to rely upon a classification of jobs in

terms of abilities so that guidance is restricted to a consideration of a relatively small number of occupational groupings. The **Scales** accomplish this end by listing related jobs in terms of ability patterns. Within each classification are representative jobs and the patterns of aptitudes and abilities demanded of successful workers in them. This sampling is, of course, limited, but the **Minnesota Occupational Rating Scales** furnish information concerning 430 different occupations. Comparing a student's ability and interest pattern with a job pattern is thus a relatively simple matter.

Personnel workers may feel that 430 different occupations are inadequate to represent the more than 17,000 specific jobs included in the Dictionary of Occupational Titles. One way to test the adequacy of the coverage is to take a list of occupational choices and attempt to fit them into the list of 430 as given. Very few job titles will be found which cannot be readily and logically represented by one or more of the 430. It is of interest to note that the list of 100 most common occupations — those which employ about 75 per cent of the working people in America, as published by Science Research Associates—is completely covered by the 430 occupations.[3]

Counselors who deal with vocational problems often experience difficulty in convincing a student of a discrepancy between his occupational ambitions and his pattern of abilities and fundamental interests. Explanation to the student in terms of scores on tests or pooled judgments of experts is complicated by lack of student background for understanding what is meant. The **Profile** can aid by allowing the counselor to set the student's pattern and directing the student's attention to the discrepancy between this pattern and that which is called for by the appropriate occupation in the **Scales.**

The **Scales** and the **Counseling Profile** are not limited to any particular age level. It is self-evident that usable judgments and measurements are almost non-existent in the elementary school years, and are few in junior high school. Explanations at these levels must be very simple and tentative, but it is probable that limited use can be found even with these younger groups. The **Scales** and the **Profile** increase in value as the age of the counselees

[3]**Occupational Outlines on America's Major Occupations. Reader's Manual and Summarizing Chart.** Chicago: Science Research Associates, 1940.

becomes greater and the amount of significant data becomes larger.

The **Profile** calls attention to gaps in information. Until one sets up what is thought to be a good case history on the **Profile** there is a tendency to ignore weak spots. Even carefully investigated counselees have profiles with many **no information** areas denoting the need for more data. This is particularly important if we are dealing with vocational problems which center about no choice, indecision among several choices, or discrepancies between claimed and measured interests or abilities.

It has been customary to think of people as one discrete category and jobs as another. The transition from one to the other has been difficult because people have usually been described in one set of terms and jobs in another. The **Scales** and the **Profile** overcome this difficulty by emphasizing the fact that **job descriptions and worker descriptions can be made in the same terms and are phases of the same thing.** This is done by making "man analysis" and "job analysis" synonymous and by using the same concepts in dealing with both. We now realize that if we describe the qualities of a successful retail clerk we are also describing retail selling as an occupational pattern of behavior. By using the same terms for our job description and for our analysis of the individual, we thus describe the worker who will be most likely to fit the job.

The approach to the job-worker situation should not be haphazard. Neither should it be a negative approach. For this reason the presentation in the **Scales** is **positive.** The occupational choices can be narrowed to functional areas which utilize the **comparative** strengths of the individual. Search can then be made within these areas for jobs demanding a worker pattern which approximates that possessed by the counselee.

Proper use of the **Counseling Profile** should help in eliminating many of the errors of self-analysis. Counselors who encourage student self-analysis should be thoroughly familiar with its limitations. The student is likely to assume a general factor of ability with little realization of the need for a more specific breakdown. If a student gains a better understanding of individual differences he will be less inclined to think in this uncritical manner. Faced with a pattern problem, he is much more

likely to see that jobs are seldom filled by people with "general goodness" but rather by those with comparative advantages in each of several composites. He can also be brought to a point where an understanding of critical ranges and optimal patterns can be instilled.

The counselor will notice that any differences between **claimed** interests (ambitions) and **measured** interests are brought into immediate focus by the **Profile.** Since the claimed occupational interest is a common point of departure in vocational counseling, this disk can be the first to be set on the **Profile.** Because the same terminology is used for both occupational choice and measured interest disks, it is possible to make direct comparisons. The extent of further counseling is partially determined by the amount of agreement between claims and measures of interests.

If we consider the **Whole Child** to be represented by all parts of the **Profile** plus numerous other facets, we avoid the charge of segmentation. Few personnel workers will quarrel with the concept of unique human patterns. The inclusion of the **no information** segments on the disks is a device whereby the counselor is warned that he is operating with fragmentary data.

Another concept is presented which should be of interest to those who dislike anything in guidance that smacks of "prescription." This is forcefully demonstrated when a student is given an opportunity to set up his own profile. If, with no cues from the counselor, the student arranges his judgments in each area, and this is accepted without question, we have a clear illustration of a non-counseling prescription. Acceptance by the counselor, whether he agrees or disagrees, is prescription by assent to the same extent that would have been true had the counselor prepared a pattern and attempted to secure understanding and acceptance by the student. The truth of this observation is generally overlooked by those who advocate the wisdom of a guidance program that involves a system of "non-counseling counselors." Common sense dictates that obviously bad placement of disks by the student should not be permitted to go uncorrected.

Educational Guidance

The **Scales** and the **Profile** may be utilized for educational guidance in much the same way as for vocational guidance. Comparison of the student's pattern is now in terms of curricula rather than occupations. Use is somewhat more limited, however, because ability patterns for various curricula — college preparatory, commercial, general, and technical — are not so clearly defined.

Counselors in secondary schools will find it necessary to use the **Profile** in terms of the school's particular norms. This condition makes it impossible to provide a standard curriculum disk on the **Counseling Profile**. Educational guidance for individual students, however, is indirectly possible through use of the vocational approach. That is, a valid vocational choice should determine to a great extent the necessary training. This training, for a large number of students, is defined by further education in schools at higher levels or of different kinds. The job choice dictates the specific curriculum to which the student must be exposed.

Guidance Directors

A duty usually charged to directors of guidance in secondary schools is in-service training of teachers and teacher-counselors. While it is wishful thinking to hope that all, or even a large proportion, of teachers will become competent counselors, it is necessary that a school faculty understand what personnel workers of the clinical type are attempting to do. There is also the obligation to help the teacher who plans on training for entry into the counseling field. In some schools training is also supplied for internes from neighboring colleges and universities.

The uses of the **Scales** and the **Profile** are much the same in this situation as in graduate classes for personnel workers. The chief difference is that application of data on the profile will tend to be confined to a specific educational institution and based upon its own local norms. If understanding of guidance techniques is a desired outcome, the **Scales** and the **Profile** should be helpful.

For many guidance directors the in-service training program requires clerical work in order to prepare for case conferences and demonstration clinics. The clerical "bottle neck" is a serious

problem in the majority of secondary school pupil personnel programs. The **Profile** eliminates much of the typing and duplicating demanded in preparing typed or mimeographed materials.

Service-Counseling

The title **counselor** has no generally accepted meaning. It includes deans, assistant principals, teacher-counselors, home room advisers, and school psychologists. For many persons designated as **counselors,** the **Scales** and the **Profile** afford opportunities for self-teaching of pattern analysis. Obviously these are not substitutes for further professional training, but merely supplements to this training.

For certain types of information, time is consumed in making notes which must later be transcribed for the case history folder. A turn of the wheel, as new information changes a judgment or eliminates a **no information** area, is an aid in keeping case notes up-to-date. A contribution is also made to the case notes through use of uniform terminology. If all contributors to a student's case history folder use the same terms to describe the same traits and job classifications, there will be less misunderstanding between counselors and other educational workers. A further aid in recording case data would be a printed form patterned after the **Counseling Profile** to be checked by the counselor and included in the case folder.

The counselor should be interested in the extra-curricular and group activities of the student. These important facts are often overlooked or ignored in considering a student. Even though no provision is made for including them on the **Profile,** these and all other relevant facts about the student should be taken into consideration in dealing with the individual.

The counselor, and particularly the teacher-counselor, is forced by the use of strips of color to think in terms of bands rather than points on a distribution. All too frequently, lack of time forces one unconsciously into the use of points, i.e., percentiles or standard scores, as if they were precise determinations rather than mere approximations. Even experienced counselors fall into this type of error.

The number of combinations possible may aid in avoiding another common failing of counselors, namely, that of stereo-

typing student patterns and problems. This is most likely to happen in discussing with a student his choice of a single occupation or, at best, only a few specific jobs.

Dangers

While the authors feel that many advantages should result from use of the **Scales** and the **Profile,** there are also some dangers involved. Many persons will feel that the techniques are so simple that anyone can use them. The fact is that all the difficulties which previously confronted us in counseling are still with us. The authors have not invented a short-cut for amateurs or incompetents. Rather they have attempted to make the work of the professional personnel worker more systematic and, from the viewpoint of occupations, more comprehensive.

Some workers will misinterpret the **Scales** and the **Profile** by assuming that the only usable information must come from tests and measurements. Others may assume that the more a judgment can be stated in terms of scores the more reliable and valid it becomes. Certainly we have not yet approached a place in personnel work where we can measure all of the essential traits. The counselors must still depend to a large degree upon their own judgments and estimates. The judgments of others also must be sought. Hobbies, student claims, and anecdotes must continue to supply an important share of the evidence underlying diagnosis and treatment. Only in a few areas can we secure valid and reliable test scores as evidence.

There is a danger that counselors and teacher-counselors will assume that all explanation to students is unnecessary if the **Profile** is used. They may assume that the **Profile** is self-explanatory. However, no mechanical aid can take the place of careful explanation, although time can be saved through using visual materials. By no means should the criterion of good counseling be the speed with which cases can be shunted out of the office door.

Additional Training for Counselors

This manual is not the place to discuss the theory and practice of counseling. There is already an extensive professional literature on this subject. Counselors who feel the need for additional training should make arrangements to take graduate

work in such courses as tests and measurements, individual differences, advanced statistical methods, industrial and personnel psychology, vocational psychology, abnormal psychology, social psychology, social pathology, social case work, personnel administration and management, occupational studies and job analysis, and labor problems. Graduate training in these fields should include lectures, laboratory work, field work, and research.

In addition, a trained counselor should possess a professional library in order to be oriented as to developments in the field of guidance and counseling. The following annotated bibliography of suggested reading is recommended.

Allen, R. D., **Inor Group-guidance Series,** Vols. I-IV. New York: Inor Publishing Company, 1934. Four volumes devoted to the description of a comprehensive educational and vocational guidance program for the schools.

American Council on Education: **Measurement and Guidance of College Students.** Baltimore: Williams & Wilkins Company, 1933. A report of the work of the Committee on Personnel Methods, describing the Cumulative Record Card, Achievement Tests, Personality Measurement, Vocational Monographs and Factors in the Character Development of College Students.

Bell, Hugh M., **The Theory and Practice of Student Counseling.** Stanford, California: Stanford University Press, 1935. An excellent discussion of counseling, emphasizing especially the author's Adjustment Inventory.

Bingham, W. V., **Aptitudes and Aptitude Testing.** New York: Harper & Brothers, 1937. Discusses aptitudes and aptitude testing from the point of view of the guidance counselor. An invaluable reference for the professional counselor.

Earle, F. M., **Psychology and the Choice of a Career.** London, England: Methuen & Company, Ltd., 1933. A concise account of the role of psychology in vocational guidance.

Hollingworth, H. L., **Judging Human Character.** New York: D. Appleton-Century Company, 1923. An excellent evaluation of the pseudo-scientific and traditional methods of sizing up people.

Koos, L. V., and Kefauver, G. N., **Guidance in Secondary Schools.** New York: The Macmillan Company, 1932. This book is listed here as one of the best comprehensive treatises on the principles and methods of vocational guidance in the schools.

Paterson, D. G., and Darley, J. G., **Men, Women, and Jobs.** Minneapolis: University of Minnesota Press, 1936. A summary of research on individual diagnosis and training in relation to occupational requirements conducted by the Minnesota Employment Stabilization Research Institute.

Paterson, D. G., Schneidler, G. G., and Williamson, E. G., **Student Guidance Techniques.** New York: McGraw-Hill Book Company, 1938. A handbook describing some one hundred tests and measurements which can be utilized in the educational and vocational counseling of high school and college students.

Ruch, Giles M., and Segel, David, **Minimum Essentials of the Individual Inventory in Guidance.** Vocational Division Bulletin No. 202, Occupational Information and Guidance Series No. 2, U. S. Office of Education. Washington, D. C.: U. S. Government Printing Office, 1940. This bulletin outlines the general nature of the individual inventory, the significant

types of entries thereon, and discusses the possibilities and limitations of scientific measurement in diagnosing individuals.

Strang, Ruth, **Counseling Technics in College and Secondary School.** New York: Harper & Brothers, 1937. This is an excellent treatise, stressing the interview, rating scales, methods of case study and records.

Strang, Ruth, **The Role of the Teacher in Personnel Work.** New York: Bureau of Publications, Teachers College, Columbia University, 1935. A non-technical account of student personnel work from the point of view of the classroom teacher.

Williamson, E. G., **How to Counsel Students.** New York: McGraw-Hill Book Company, 1939. An intensive and advanced treatment of counseling for the psychologically trained counselor.

Williamson, E. G., and Darley, J. G., **Student Personnel Work.** New York: McGraw-Hill Book Company, 1937. An excellent comprehensive treatise on student personnel work, emphasizing points of view, principles, methods and results.

Williamson, E. G., and Hahn, M. E., **Introduction to High School Counseling.** New York: McGraw-Hill Book Company, 1940. An elementary yet comprehensive treatment of counseling at the secondary school level.

The following periodicals are also recommended:

Educational and Psychological Measurement, a quarterly journal published by Science Research Associates, Chicago.

Occupations: The Vocational Guidance Magazine, published by National Vocational Guidance Association, New York.

Vocational Digest, published by Stanford University Press, Stanford, California.

Section II

Minnesota Occupational Rating Scales[1]

The **Minnesota Occupational Rating Scales** presented in this section contain a list of 430 occupations each classified according to minimum requirements with respect to six human abilities, i.e., **academic ability, mechanical ability, social intelligence, clerical ability, musical talent,** and **artistic ability.**

These **Scales** are an outgrowth of the work of many investigators and collaborators beginning with Taussig. The historical development may be ascertained by consulting the references contained in the footnote below.[2]

The usefulness of ratings of occupations in vocational guidance is indicated in a similar approach which was recently made by British vocational psychologists. In this work, Oakley, Macrae, and Mercer rated 123 occupations according to minimum requirements with respect to 24 human abilities and other qualities.[3] Likewise, W. V. Bingham's book, **Aptitudes and Aptitude Testing,** printed an earlier form of the **Minnesota Occupational Rating Scales** in an appendix.[4]

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[1]In order to avoid confusion in using the **Rating Scales,** directions for using the **Counseling Profile** have been placed in a separate chapter, Section V, page 125. It is suggested that the reader become thoroughly familiar with the **Rating Scales,** Sections I through IV, before making use of the **Profile.**

[2]Taussig, F. W., **Principles of Economics,** Vol. II, New York: Macmillan, 1912, pp. 134-48; Yerkes, Robert M., editor, **Memoirs of the National Academy of Sciences,** Vol. XV, **Psychological Examining in the United States Army,** Washington: Government Printing Office, 1921, Part III, Ch. 15, pp. 819-37; Fryer, Douglas, "Occupational Intelligence Standards," **School and Society,** 1922, 16:273-77; Terman, L. M., **Genetic Studies of Genius,** Vol. I, Stanford, Calif.: Stanford University Press, 1925, pp. 66-9; Paterson, D. G., Elliott, R. M., et al., **Minnesota Mechanical Ability Tests,** Minneapolis: University of Minnesota Press, 1930, pp. 136-40; Brussell, E. S., **A Revision of the Barr Scale of Occupational Intelligence,** M.A. thesis on file in University of Minnesota Library, 1930; Goodenough, F. L., and Anderson, J. E., **Experimental Child Study,** New York: D. Appleton-Century Co., 1931, pp. 501-12; Fryer, D., and Sparling, E. J., "Intelligence and Occupational Adjustment," **Occupations,** 1934, 12:55-63; Cisney, H. N. **Classification of Occupations in Terms of Social Intelligence, Artistic Ability, and Musical Talent,** M.A. thesis on file in University of Minnesota Library, 1935; Trabue, M. R. "Functional Classification of Occupations," **Occupations,** 1936, 15:127-31.

[3]Oakley, C. A., Macrae, A., and Mercer, E. O., **Handbook of Vocational Guidance.** London: University of London Press, 1937. pp. 130-37.

[4]New York: Harper & Brothers, 1937. pp. 365-80.

Definition Of The Six Abilities

The present scales differ from those published in Bingham by the inclusion of eight additional occupations, the addition of ratings for clerical ability, and a simplification of the levels of ability used in rating.

Definitions for the six abilities considered in classifying occupations are as follows:

1. By **academic** ability is meant the ability to understand and manage ideas and symbols.

2. **Mechanical ability** includes both the ability to manipulate concrete objects—to work with tools and machinery and the materials of the physical world—and the ability to deal mentally with mechanical movements.

3. By **social intelligence** is meant the ability to understand and manage people—to act wisely in human relations.

4. By **clerical ability** is meant the ability to do rapidly and accurately detail work such as checking, measuring, classifying, computing, recording, proofreading, and similar activities.

5. **Musical talent** requires the capacity to sense sounds, to image these sounds in reproductive and creative imagination, to be aroused by them emotionally, to be capable of sustained thinking in terms of these experiences, and, ordinarily, the ability to give some form of expression in musical performance or in creative music.

6. **Artistic ability** refers both to the capacity to create forms of artistic merit and the capacity to recognize the comparative merits of forms already created.

Description of the four levels for each of the six abilities is as follows:

7. Should be a 7th - Physical Agility

Four Levels of Academic Ability

Level A. **(Professional, Semi - professional, and Executive Occupations)**

Requires superior abstract intelligence with training **equivalent** to college graduation from a first-class institution or two or three years of college, or to that of executive of a

moderately large business. Ability for creative and directive work is implied. Includes top decile in general population.

Examples: Lawyer, college president, president of a large manufacturing concern, executive of a moderately large business, veterinary doctor, high school teacher, etc.

Level B. **(Technical, Clerical, Supervisory Occupations)**

Requires high average abstract intelligence with training **equivalent** to high school graduation and/or technical school or junior college. Includes 76 to 90 percentile.

Examples: Minor executive (foremen, department heads) or highly technical work often involving dealing with abstract classifications and details, such as railroad clerks, some retail dealers, photographers, telegraphers, shop foremen, stenographers, etc.

Level C. **(Skilled Tradesmen and Low Grade Clerical Workers)**

Requires average abstract intelligence with training **equivalent** to vocational high school. Work demanding specialized skill and knowledge; tasks mostly of a complicated but concrete nature requiring specialized training. Includes 26 to 75 percentile.

Examples: Auto mechanic, stationary engineer, file clerk, typist, etc.

Level D. **(Semi-skilled and Unskilled Occupations)**

Requires low average or slightly below average abstract intelligence with training **equivalent** to eighth grade or less. Work demanding a minimum of technical knowledge or skill but may involve special abilities, such as dexterity in the performance of repetitive and routine work. Includes 1 to 25 percentile.

Examples: Packer in factories, operatives in factories (operate machines but do not understand principles and are unable to repair or set up the machine), lowest grades of clerical work (number sorters, deliverymen), or routine manual work under supervision requiring no skill or technical knowledge (day laborers, railroad section hands, etc.).

Four Levels of Mechanical Ability

Level A. **(Professional and Higher Technological)**

Requires high degree of mechanical ability and knowledge, considerable specialized training, and mastery of principles permitting independent work. Includes top decile of population.

Examples: Inventive mechanical genius, machine designer, mechanical engineer, master mechanic, toolmaker, civil and electrical engineers.

Level B. **(Skilled Tradesman, High Level)**

Requires mechanical ability and specialized skill. Must be able to do critical work, check results, etc. Competent to work without immediate supervision. Includes 76 to 90 percentile.

Examples: Draftsman, engraver, general auto mechanic, bricklayer.

Level C. **(Skilled Tradesman, Low Level)**

Requires some mechanical ability and skill, but only a limited knowledge of the processes involved. The work is partly pre-planned and requires some supervision. Includes 26 to 75 percentile.

Examples: Boiler maker, tire repairer, cobbler.

Level D. **(Semi-skilled and Unskilled)**

May require high degree of manual dexterity, but little specialized skill or knowledge, except what can be acquired in a short period of training; may involve adjustment to an externally imposed rhythm; requires no technical knowledge and minimal mechanical ability. Includes 1 to 25 percentile.

Examples: Telephone operator, wrapper, bench assembly worker, day laborer, street sweeper, lawyer, writer, public officials in non-mechanical occupations.

Four Levels of Social Intelligence

Level A. **(Persuasive)**

Requires direct or indirect contact with people in attempting to convince or influence them. Demands an unusually high degree of social sensitivity. Includes top decile.

Examples: Politician, life insurance salesman, bond salesman, minister, social service worker.

Level B. **(Administrative)**

Requires ability to understand and control people, directly or indirectly, either as workers or as clients; must be able to inspire confidence and secure cooperation. Includes 76 to 90 percentile.

Examples: Executives, factory manager, foreman, lawyer, physician, secretary, correspondence clerk.

Level C. **(Business Contact and Service)**

Requires direct and indirect contact with the public in retail saleswork involving a small degree of salesmanship, or contact with the public for the purpose of giving information or assistance. Includes 26 to 75 percentile.

Examples: Sales clerk, information clerk, hotel clerk, theatre usher, telephone salesman, demonstrator.

Level D. **(Rank-and-file Workers and A-social Occupations)**

Requires only ability to get along with supervisors and fellow workers, no public contact; or individual work usually requiring specialized skills and knowledge. Includes 1 to 25 percentile.

Examples: Day laborer, factory worker, office clerk, watchmaker, bookkeeper, night watchman, mathematician, technical laboratory research worker.

Four Levels of Clerical Ability

Level A. **(Professional and Higher Technical)**

Requires the highest degree of clerical ability and knowledge, usually involving specialized training equivalent to college graduation. Includes top decile.

Examples: Accountant, actuary, statistician, secretary, bank teller, etc.

Level B. **(Technical)**

Requires high degree of clerical ability usually involving specialized training equivalent to high school graduation and commercial training. Includes 76 to 90 percentile.

Examples: Bookkeeper, stenographer, calculating machine operator, railway mail clerk.

Level C. **(Routine Level)**

Requires the ability to perform a limited number of clerical tasks with a high degree of speed and accuracy. Includes 26 to 75 percentile.

Examples: File clerk, office mail clerk, mimeograph operator, retail sales clerk, messenger, etc.

Level D. **(Non-clerical)**

The presence or absence of clerical ability is not relevant to occupational efficiency. Includes 1 to 25 percentile.

Examples: Plumber, aviation mechanic, etc.

Four Levels of Musical Ability

Level A. **(Creative and Interpretive and Higher Professional Occupations)**

Requires high degree of musical talent and knowledge which may be manifested either in original compositions or in original interpretation of music. Includes 97 to 100 percentile.

Examples: Composer, concert artist, symphony conductor, soloist in symphony orchestra, director of famous choir, teacher in conservatory or in university.

Level B. **(Technical and Lower Professional Occupations)**

Requires average or somewhat above the average amount of musical talent, but mainly a high degree of technical knowledge and well-developed musical discrimination—the average professional musician. Includes 91 to 96 percentile.

Examples: Arranger of music, music critic, player in dance orchestra, music teacher (in grade or high school).

Level C. **(General and Mechanical Occupations)**

Requires a small amount of musical talent, but a greater degree of either general musical information or specialized mechanical knowledge and skill. Includes 26 to 90 percentile.

Examples: Retail dealer in music, clerk in a music store, repairman of musical instruments, instrument tester in a factory.

Level D. **(Non-musical Occupations)**

Presence or absence of musical talent does not influence this type of work. Includes 1 to 25 percentile.

Examples: Lawyer, day laborer.

Four Levels of Artistic Ability

Level A. **(Professional)**

Requires high degree of creative ability and skill; highly original and individual work, reflecting the ideas and personality of the artist. Includes 97 to 100 percentile.

Examples: Sculptor, artist, etcher, architect, teacher in art institute or university art department.

Level B. **(Commercial Art Work)**

Requires a fair degree of artistic ability and some originality; usually rather specialized work. Includes 91 to 96 percentile.

Examples: Magazine illustrator, interior decorator, clothing designer, landscape gardener, advertising lay-out work.

Level C. **(Crafts and Mechanical Art Work)**

Requires some artistic ability but mainly mechanical knowledge and motor skill. Includes 26 to 90 percentile.

Examples: Potter, draftsman, weaver, sign and poster painter.

Level D. **(Non-artistic)**

Artistic ability is not involved or is minimal in these occupations. Includes 1 to 25 percentile.

Examples: Lawyer, bookkeeper, paper hanger, house painter.

Minnesota Occupational Rating Scales

The 430 occupations listed below are arranged in alphabetical order. Each occupation is preceded by an identification number. Those preceded by a number and a letter, such as 85a, identify the eight occupations which have been added to the list as originally published in Bingham's **Aptitudes and Aptitude Testing.** The letters following each occupation indicate the minimum level of ability required for job competition, other things being equal. In the last column labeled "Pattern Number" will be found a number which serves to cross-index the occupation to Section IV in which two or more occupations having the same ability pattern are grouped together. If no pattern number is given for an occupation, it is a unique occupation in this list. In other words, no other occupation listed has the same pattern of ratings.

Minimum amount of estimated ability required.

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
— A —							
1. Accountant, auditor, abstractor—private or public; 4 years college	A	D	D	A	D	D	15
2. Actor—average, in dramatic or musical production	B	D	C	D	B	D	39
3. Actor—highest type professional actor	A	D	B	D	C	D	....
4. Actor—vaudeville or variety; singing, dancing, etc.	C	D	C	D	B	D	56
4a. Adjustor, insurance claims	B	D	B	B	D	D	25
5. Advertising expert or advertising writer—plans, writes copy	A	D	B	C	D	D	13
6. Advertising artist—illustrates advertisements	B	D	C	D	D	B	....
7. Agent, express or freight, in charge of depots	B	D	C	B	D	D	37

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
8. Agent and canvasser—house-to-house canvassing and demonstration	C	D	A	D	D	D	....
9. Agent—ticket agent employed in depots, ticket offices, etc.	C	D	C	B	D	D	45
10. Annealer, temperer—edge, face, spring tools; factory	C	B	D	D	D	D	44
11. Apiarist—keeper of bees	C	D	D	D	D	D	....
12. Appraiser—estimates value for insurance cost, taxation, etc.	B	D	C	B	D	D	37
13. Architect—training equal to college graduation	A	A	C	C	D	A	....
14. Arranger of music—general; band, orchestra, choir	B	D	D	B	B	D	27
15. Arranger of music—popular, for dance orchestra	B	D	D	B	B	D	27
16. Arranger of music—symphonic, for symphony orchestra	A	D	C	B	A	D	....
17. Athlete—professional; depends on this for income	C	C	C	D	D	D	59
18. Astronomer—professor of astronomy in university or college	A	B	C	B	D	D	4
19. Auctioneer—general	C	D	A	C	D	D	....
20. Auto assembler—in automobile factory	D	C	D	D	D	D	65
21. Auto racer—earns living racing, testing automobiles on speedway	C	B	D	D	D	D	44

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
22. Aviator, aeronautical—flyer; involves technical knowledge of aeronautics	B	A	D	D	D	D	29
— B —							
23. Baker—not owner; employed in bakery	D	D	D	D	D	D	70
24. Banker and bank officer—executive, head or officer of bank	A	D	B	A	D	D	7
25. Banker and bank officer—small town	A	D	B	A	D	D	7
26. Bank teller—routine work; cashes checks, takes in deposits, etc.	B	D	C	A	D	D	36
27. Barber—not owner; has charge of chair	D	C	C	D	D	D	67
28. Barber—owner of shop	C	C	C	C	D	D	46
29. Bartender—in hotel, restaurant, or night club	D	D	C	C	D	D	68
30. Bell boy, bell hop—in hotel	D	D	C	D	D	D	66
31. Blacksmith, farrier, horseshoer—general work in rural community	D	C	D	D	D	D	65
32. Boatman—canal hand, lock keeper	D	D	D	D	D	D	70
33. Boiler maker—heavy work; riveting, handling plate metal	D	C	D	D	D	D	65
34. Boiler washer—railroad engine hostler	D	D	D	D	D	D	70
35. Bookbinder—skilled operator in bindery; runs machine for sewing, trimming, etc.	C	B	D	D	D	D	44

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
36. Bookkeeper—high school or business college training	B	D	D	B	D	D	38
37. Bootblack—works in shoe-shine parlor or barber shop	D	D	C	D	D	D	66
38. Brakeman—on freight or passenger train	D	B	D	D	D	D	64
39. Bricklayer—skilled laborer	D	B	D	D	D	D	64
40. Broker—loan broker; or finance company official	A	D	B	B	D	D	8
41. Broker—pawnbroker; owns and operates shop	B	D	B	C	D	D	35
42. Broker and commission man—wholesale dealer in fruit, grain, livestock	B	D	B	B	D	D	25
43. Broker and promoter—stocks and bonds	A	D	A	B	D	D	6
44. Builder or building contractor—in charge of construction	B	A	B	B	D	C	....
45. Butcher—not shop owner; able to make cuts properly	D	C	D	D	D	D	65
46. Buyer—for department store	B	D	B	B	D	B	....
47. Buyer—for hardware store	B	C	B	B	D	D	22
— C —							
48. Cabinet maker—skilled worker in furniture factory	C	B	D	D	D	C	43
49. Canvas worker—in tent and awning factory	D	C	D	D	D	D	65
50. Carpenter — handles woodworking tools; can follow directions in processing wood, construction	C	C	D	D	D	D	47

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
51. Cartoonist — newspaper or magazine	B	C	B	D	D	B	....
52. Cashier—makes change; retail stores, etc.	C	D	C	B	D	D	45
53. Caterer—owner; in charge of directing the catering service	B	D	B	C	D	B	....
54. Chambermaid—makes beds and cleans rooms in hotel or rooming house	D	D	D	D	D	D	70
55. Chauffeur—including taxi and bus driver; some knowledge of automobile mechanics	C	B	C	D	D	D	....
56. Chef—employed in first class hotel	C	C	D	D	D	C	62
57. Chemist, industrial—thorough knowledge of chemistry of manufacturing process	A	B	D	C	D	D	12
58. Chiropodist—special training required; not medical course	C	C	C	D	D	D	59
59. Chiropractor—special training for about one year; not college graduation	B	C	B	C	D	D	31
60. Choir director—in large city church	B	D	B	C	A	D	....
61. Choir singer—in large city church	C	D	D	D	B	D	....
62. Circus roustabout—does heavy work about circus	D	C	D	D	D	D	65
63. Cleaner—scrub woman	D	D	D	D	D	D	70
64. Clerk—in art store	C	D	C	C	D	C	63

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
65. Clerk—in music store; must be able to play popular music on piano	C	D	C	C	C	D	....
66. Clerk, express—in charge of desk; receiving or sending	C	D	C	B	D	D	45
67. Clerk, filing—little technical knowledge; routine	C	D	D	C	D	D	....
68. Clerk, railroad—railway mail clerk	B	D	D	B	D	D	38
69. Clerk, shipping—in wholesale company; in charge of receiving or sending goods	B	D	D	B	D	D	38
70. Clerk, stock—checks stock	C	D	D	B	D	D	57
71. Cobbler, shoemaker—repairer in shoe shop	D	C	D	D	D	D	65
72. Collector—employed to collect debts, etc.	C	D	C	C	D	D	48
73. Compiler—of census, bibliographies, etc.	B	D	D	B	D	D	38
74. Composer—of popular songs	B	D	C	C	B	D	....
75. Composer—of classical and concert music	A	D	C	C	A	D	14
76. Compositor, typesetter—sets up type, does skilled hand work	C	B	D	C	D	D	52
77. Concert artist—high class vocalist or instrumentalist	A	D	C	D	A	D	....
78. Concrete worker—concrete construction work	D	C	D	D	D	D	65
79. Conductor—on railroad passenger train	B	D	C	B	D	D	37

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
80. Conductor—of high class concert band or theatre orchestra	B	D	B	C	B	D	26
81. Conductor—of popular dance orchestra	C	D	B	D	B	D	....
82. Conductor—of symphony orchestra	A	D	B	C	A	D	9
83. Conductor—on street car	C	D	C	C	D	D	48
84. Cook—in restaurant or small hotel	D	C	D	D	D	D	65
85. Cooper—makes barrels in factory	D	C	D	D	D	D	65
85a. Correspondence clerk—answers complaints, inquiries, etc.	B	D	B	B	D	D	25
85b. Credit manager—administers credit department	B	D	B	B	D	D	25
85c. Credit clerk—interviews applicants for credit	C	D	B	C	D	D	55
— D —							
86. Dairy hand—milking and care of stock; under supervision	D	D	D	D	D	D	70
87. Dancer—high class interpretive dancing	B	D	C	D	B	B	....
88. Day laborer—in shop or factory, on street, or as roustabout	D	D	D	D	D	D	70
89. Decorator — draper, window dresser, etc.	B	C	C	D	D	B	33
90. Deliveryman — delivers groceries, etc., with automobile	D	C	C	D	D	D	67

	Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
91.	Dentist—2 to 5 years' experience in small town	B	A	B	C	D	D	18
92.	Dentist—great, in city	A	A	B	C	D	D	2
93.	Designer—automobile bodies and accessories	B	A	D	C	D	B	19
94.	Designer—fine jewelry and silverware	B	A	D	C	D	B	19
95.	Designer—furniture and house furnishings	B	A	D	C	D	B	19
96.	Designer—high grade millinery	B	C	C	D	D	B	33
97.	Designer—high grade women's clothing	B	B	C	D	D	B	....
98.	Designer—machinery and motors	A	A	D	C	D	C	10
99.	Designer—printed textiles	B	B	D	D	D	B	21
100.	Designer—ready-made clothing for men and women	B	B	D	D	D	B	21
101.	Designer—stage settings for plays, operas, etc	A	A	C	C	C	A	....
102.	Designer—tapestries, carpets, and rugs	B	B	D	D	D	B	21
103.	Designer—wall paper	B	B	D	D	D	B	21
104.	Detective—traces clues, employee of detective bureau	B	C	B	C	D	D	31
105.	Ditcher—drains farms	D	D	D	D	D	D	70
106.	Draftsman—mechanical	B	B	D	B	D	C	....
107.	Drayman, express man, baggage man, teamster—transports baggage, express, merchandise, etc., under supervision	D	D	D	C	D	D	69

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
108. Dressmaker—at home or in small shop; may employ few helpers	C	C	C	C	D	C	58
109. Dressmaker's helper — finishing work; routine	D	D	D	D	D	D	70
110. Druggist, pharmacist—college graduate	A	C	C	C	D	D	16
111. Dry cleaner—employed in dry cleaning establishment	D	D	D	D	D	D	70
112. Dry cleaner—owner or manager, average business	C	C	C	C	D	D	46
113. Dyer—routine work in factory	D	D	D	D	D	D	70
— E —							
114. Editor — small paper; considerable job work	A	B	B	B	D	D	1
115. Editor, publisher—large city paper, or head of national magazine	A	D	B	B	D	D	8
116. Educational administrator—superintendent or principal of school	A	D	B	B	D	D	8
117. Electrician — installs wiring system; general electrical work	C	B	D	D	D	D	44
118. Electrotyper—prepares woodcuts	C	A	D	D	D	C	50
119. Elevator operator — routine work; requires little knowledge or training	D	D	C	D	D	D	66

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
120. Employment manager, personnel manager — college graduate or education equivalent to college course	A	D	B	B	D	D	8
120a. Employment interviewer	B	D	B	C	D	D	35
121. Engineer, architectural—college graduate	A	A	B	B	D	A	....
122. Engineer, civil—4 to 5 years' college training; plans and constructs roads, bridges, etc.	A	A	C	B	D	C	....
123. Engineer, consulting — in charge of corps of engineers	A	A	B	B	D	D	....
124. Engineer, electrical—college training	A	A	D	B	D	D	....
125. Engineer, locomotive—freight or passenger train	B	A	D	C	D	D	28
126. Engineer, mechanical — designs and constructs machinery and machine tools	A	A	D	C	D	C	10
127. Engineer, marine—runs engine on large ship	B	A	D	D	D	D	29
128. Engineer, mining—thorough knowledge of mining and extracting metals	A	A	D	C	D	D	11
129. Engineer, stationary—in coal mines; brakeman, etc.; requires special training as operative	C	B	D	D	D	D	44

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
130. Engineer, technical—thorough knowledge of processes of industry	A	A	D	C	D	D	11
131. Engraver—jewelry and silverware	C	B	D	D	D	C	43
132. Executive—minor; in business or manufacturing	B	C	B	B	D	D	22
— F —							
133. Farm laborer—unskilled	D	D	D	D	D	D	70
134. Farm tenant—on small tract of land	D	C	D	D	D	D	65
135. Farmer—owner or manager of moderately sized tract of land	C	C	C	C	D	D	46
136. Finisher—of metal; polishes and lacquers metal fixtures, etc.	D	B	D	D	D	D	64
137. Firefighter, fireman—in city; handles ordinary fire-fighting apparatus	D	B	D	D	D	D	64
138. Fireman—railroad, on freight or passenger trains	D	B	D	D	D	D	64
139. Fireman—stationary engines	D	C	D	D	D	D	65
140. Fisherman—employed or engaged in catching fish	D	D	D	D	D	D	70
141. Floorwalker and foreman—in stores; in charge of department and may direct sales clerks	C	D	B	C	D	D	55
142. Floriculturist—grower of ornamental flowering plants	C	C	D	D	D	C	62

	Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
143.	Foreman—construction	B	B	B	C	D	D	20
144.	Foreman, overseer—small factory or shop	B	A	B	C	D	D	18
145.	Foreman—large factory	B	B	B	B	D	D	17
146.	Foreman—in transportation	B	B	B	C	D	D	20
147.	Foreman—in warehouses, stockyards, etc.	C	C	B	C	D	D	....
148.	Forest ranger—looks for forest fires, etc.	B	C	C	C	D	D	40
149.	Foundry worker — including molders, founders, and casters	D	C	D	D	D	D	65
	— G —							
150.	Garbage collector—in city	D	D	D	D	D	D	70
151.	Gardener—tends garden and lawn of private home	D	C	D	D	D	D	65
152.	Gardener—truck farm; owns and operates small plots	B	C	D	D	D	D	....
153.	Gardener—landscape	C	B	C	D	D	C	....
154.	Geologist — locates ore deposits, petroleum fields, etc.; employed by mining company	A	B	D	C	D	D	12
155.	Glass blower—blows glass, bottles, etc., in glass factory	C	B	D	D	D	C	43
156.	Guard, watchman, doorkeeper—routine work	D	D	D	D	D	D	70
157.	Gunsmith—makes or repairs small firearms; has small shop	C	B	D	D	D	D	44

	Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
	— H —							
158.	Hairdresser, manicurist—employed in shop	D	C	C	D	D	D	67
159.	Harness maker—makes and repairs harnesses; does general leather work	C	B	D	D	D	D	44
160.	Hobo—vagrant	D	D	D	D	D	D	70
161.	Hospital attendant – carries meal trays, etc.	D	D	C	D	D	D	66
162.	Hostler – care of horses in livery; feeds; cleans stable	D	C	D	D	D	D	65
163.	Hotel keeper—owns or manages average hotel	B	D	B	C	D	D	35
164.	Hotel manager—manages large hotel in city	A	D	B	B	D	D	8
165.	Housekeeper—takes care of private home; cooks, cleans, etc.; general housework	D	D	C	D	D	D	66
166.	Huckster, peddler—fruit and vegetables	D	D	C	C	D	D	68
	— I —							
167.	Illustrator—books, magazines, and newspapers	B	C	C	D	D	B	33
168.	Illustrator—greeting, Christmas, birthday cards, etc.	C	C	C	D	D	B	....
169.	Inspector, sampler, etc.—factory, railroad, etc.	C	C	D	C	D	D	61
170.	Inspector—lumber	C	C	D	D	D	D	47
171.	Inspector and tester—musical instruments in factory	C	B	D	D	C	D	53
172.	Inspector—telephone and telegraph	B	B	D	D	D	D	....

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
173. Inspector—street railway	C	C	D	C	D	D	61
174. Insurance agent—sells policies for a company	B	D	A	B	D	D	24
175. Interior decorator — requires ability in drawing, knowledge of color harmony, designing, etc.	B	B	B	C	D	B	....
175a. Interviewer — census, market research, political polls	B	D	B	C	D	D	35
176. Inventive genius—Edison type	A	A	D	C	D	D	11
177. Inventor—of commercial appliances	A	A	D	C	D	D	11
178. Irrigator and ditch tender—routine worker on irrigation ditch	D	D	D	D	D	D	70
— J —							
179. Janitor, sexton—church, office building, apartment, etc	D	C	D	D	D	D	65
180. Jeweler—maker of watches in factory	C	A	D	D	D	D	51
181. Journalist—high class, writes feature articles for newspapers and magazines	A	D	B	B	D	D	8
182. Judge — municipal, district, and federal courts	A	D	B	B	D	D	8
183. Junkman—collector of junk	D	D	D	D	D	D	70
184. Justice of peace—in small town	B	D	C	C	D	D	42
— K —							
185. Keeper—of charitable and penal institutions	B	D	B	C	D	D	35

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
— L —							
186. Laborer—in factories; such as packers, wrappers, counters, etc.	D	D	D	D	D	D	70
187. Laborer—construction	D	D	D	D	D	D	70
188. Land owner and operator—very large farm or ranch	A	C	B	B	D	D	5
189. Landscape architect—depends on this work for income	B	C	B	C	D	B	23
190. Lathe operator—routine lathe work in factory	D	D	D	D	D	D	70
191. Laundry worker — various kinds of work in laundry; practically unskilled	D	C	D	D	D	D	65
192. Laundry owner and manager—of average laundry	B	C	B	C	D	D	31
193. Lawyer—average civil or criminal lawyer	A	D	B	B	D	D	8
194. Lawyer—eminent	A	D	A	B	D	D	6
195. Leather worker—skilled worker; makes traveling cases, novelty goods, etc.; mostly hand work	C	B	D	D	D	C	43
196. Letter carrier—private employee; runner	D	D	C	C	D	D	68
197. Librarian—in small institution or public library	B	D	C	A	D	D	36
198. Librarian—for symphony orchestra; has charge of musical scores	B	D	D	B	C	D	....
199. Life saver—on municipal beach	D	D	C	D	D	D	66

[*Lighthouse Keeper*]

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
200. Lighthouse keeper	C	C	D	D	D	D	47
201. Lineman—telephone and telegraph; installs and repairs systems	C	B	D	D	D	D	44
202. Linotype operator—on average newspaper	C	B	D	B	D	D	....
203. Lithographer – makes prints from designs which he puts on stone	C	A	D	D	D	C	50
204. Livery stable keeper (dropped)							
205. Longshoreman—loads and unloads cargoes	D	D	D	D	D	D	70
206. Lumberman—owner or manager of lumber camps or company	C	C	B	B	D	D	....
207. Lumberman—laborer	D	D	D	D	D	D	70
— M —							
207a. Machine job setter—sets machine for semi-skilled operator	C	B	C	C	D	D	....
208. Machinist—in large factory; highly specialized work	C	B	D	D	D	D	44
209. Mail carrier—on rural route; uses automobile	C	D	C	C	D	D	48
209a. Mail carrier—on city route	C	D	C	B	D	D	45
210. Manager or superintendent—average size factory	A	C	B	B	D	D	5
211. Manufacturer—employs from 10 to 50 men; makes small articles	B	B	B	B	D	D	17
212. Marshall, constable—small town	C	D	C	D	D	D	....

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
213. Master of ceremonies—in large theatre; plays several instruments and directs orchestra	B	D	B	D	B	D	....
214. Mechanic, aeroplane — requires technical knowledge as well as mechanical skill	C	A	D	D	D	D	51
215. Mechanic, average — automobile mechanic, in garage	C	B	D	D	D	D	44
216. Mechanic, average—in foundry	C	C	D	D	D	D	47
217. Mechanic, general—handyman	C	C	D	D	D	D	47
218. Mechanic, master—thorough knowledge of his field of mechanics	B	A	D	C	D	D	28
218a. Medical technologist	B	B	D	C	D	D	30
219. Merchant, great — owns and operates a million dollar business	A	D	B	B	D	D	8
220. Merchant, great, wholesale—business covering one or more states	A	D	B	B	D	D	8
221. Messenger boy—in office or store; including telegraph and express messages	D	D	C	C	D	D	68
222. Miller—feed mill; grinds grain for farmers	D	C	D	D	D	D	65
223. Miller—flour mill; must be thoroughly familiar with every detail of work	C	B	D	C	D	D	52
224. Milliner—owner, makes hats in small shop, may have few helpers	C	C	C	C	D	C	58

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
225. Milliner's helper—employed under supervision	D	D	D	D	D	D	70
226. Millwright—keeps machinery in running order and makes repairs	C	B	D	D	D	D	44
227. Miner—digger and shoveller	D	C	D	D	D	D	65
228. Monument maker—carves gravestones	C	C	D	C	D	C	60
229. Motor-cyclist—rapid delivery service	D	C	D	D	D	D	65
230. Motorman—street railway	D	C	D	D	D	D	65
231. Motorman—electric railroad	C	C	D	D	D	D	47
232. Moving picture operator—operates projection machine	C	B	D	D	D	D	44
233. Munition worker—average	D	C	D	D	D	D	65
234. Music critic—for large newspaper or magazine	A	D	B	C	B	D	....
235. Music publisher—manager of music publishing company	A	D	B	B	B	D	....
236. Music entertainer – plays or sings in vaudeville	C	D	C	D	B	D	56
— N —							
237. Notary public—attests or certifies deeds, etc	C	D	C	C	D	D	48
238. Nurse, registered – college training and graduation from accredited hospital	A	C	C	C	D	D	16
238a. Nurse, practical	C	C	C	C	D	D	46
239. Nurseryman—owner or manager	B	C	C	C	D	D	40

Occupation — O —	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
239a. Occupational therapist	A	B	B	C	D	C	....
240. Oculist—treats diseases of the eye	A	B	B	C	D	D	3
241. Odd job man	D	C	D	D	D	D	65
242. Officer—army	A	C	B	B	D	D	5
243. Officer—ship	A	B	B	B	D	D	1
244. Officer or inspector—city or county	B	C	B	C	D	D	31
245. Official—manufacturer, head of large company	A	C	B	B	D	D	5
246. Official—of insurance company	A	D	B	B	D	D	8
247. Official or superintendent—railroad	A	B	B	B	D	D	1
248. Official or inspector — state and federal, cabinet official, diplomat, etc.	A	D	B	B	D	D	8
249. Oil well driller	D	B	D	D	D	D	64
250. Operatic director—directs and produces grand opera	A	C	B	C	A	B	....
251. Operative—in factory; operates machines; semi-skilled	D	D	D	D	D	D	70
252. Organist—in large city church	B	D	C	C	A	D	....
253. Organist—in large city theatre	B	D	D	C	B	D	....
254. Ornamental iron worker — manufactures and erects grillwork, railing, stairs, fences, etc.	C	B	D	C	D	C	....
255. Osteopath—training equal to college graduation	A	B	B	C	D	D	3

Occupation — P —	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
256. Painter—general; paints houses, etc.	C	C	D	D	D	D	47
257. Painter—glazier or varnisher in factory	D	C	D	D	D	D	65
258. Painter of murals—for public buildings	B	C	C	D	D	A	....
259. Paper hanger	D	C	D	D	D	D	65
260. Pattern maker—metal	C	A	D	C	D	D	49
261. Pattern maker—wood	C	A	D	C	D	D	49
262. Photo-engraver, etcher—makes plates for reproducing pictures or line drawings	B	B	D	C	D	C	....
263. Photographer—requires few months' training and experience	B	B	C	C	D	C	....
264. Physician or surgeon—averages 6 to 8 years post-high school training	A	B	B	C	D	D	3
265. Piano or organ tuner — requires knowledge of construction of musical instruments	C	B	D	D	C	D	53
266. Plasterer—knowledge of materials used is necessary	C	B	D	D	D	D	44
267. Plumber and steamfitter — average trained plumber; under supervision	C	B	D	D	D	D	44
268. Policeman—average patrolman	C	D	C	C	D	D	48
269. Policeman—sergeant or chief	C	D	B	B	D	D	....

	Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
270.	Politician — party worker; holder of political office	B	D	A	C	D	D	34
271.	Porter—personal service on train	D	D	C	D	D	D	66
272.	Portrait painter—high class artist	A	B	B	D	D	A	....
273.	Postmaster — in city up to 10,000 population; second class post office	B	D	B	A	D	D	....
274.	Potter—makes jugs, jars, crockery, earthenware, etc	C	C	D	D	D	C	62
275.	Poultry raiser—small poultry farm	D	D	D	C	D	D	69
276.	Preacher, clergyman, minister—average, college graduate	A	D	A	C	C	D	....
277.	President—college	A	D	B	B	D	D	8
278.	Printer—of small shop; job work	B	B	C	B	D	D	....
279.	Probation and truant officer	B	D	B	C	D	D	35
280.	Professional musician—plays in dance orchestra	C	C	C	D	B	D	....
281.	Professional musician—plays in high class concert band or theatre orchestra	C	B	D	C	B	D	....
282.	Professor—university (M.A. or Ph.D.); writes, teaches, does research	A	C	B	B	D	D	5
283.	Pseudo-scientist—fortune teller, astrologer, spiritualist	C	D	B	D	D	D	....
	— R —							
284.	Radio announcer—average radio station	B	D	B	B	C	D	....

[*Radio Artist*]

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
285. Radio artist—plays or sings on national broadcast program	B	D	C	D	B	D	39
286. Radio operator—in broadcasting station	B	B	D	C	C	D	....
287. Real estate agent—sells or rents property on commission basis	B	D	A	C	D	D	34
288. Religious, charitable, and welfare worker—practically untrained, small salary	C	D	B	C	D	D	55
289. Repairman, electrical—repairs electrical devices, and machines or motors	C	B	D	C	D	D	52
290. Repairman, general—repairs broken articles; uses woodworking tools	C	B	D	D	D	D	44
291. Repairman, mechanical—in shop or factory; keeps machines in condition	C	B	D	D	D	D	44
292. Repairman, musical—repairs musical instruments	C	B	D	D	C	D	53
293. Repairman, radio—technical knowledge and skill required	C	A	D	C	D	D	49
294. Repairman, tire—in general automobile repair shop; knowledge of vulcanizing is required	C	C	D	D	D	D	47
295. Reporter—on newspaper; general routine work	A	D	A	B	D	D	6
296. Research leader—like Binet, Pasteur, etc.	A	B	D	B	D	D	....
297. Restaurant keeper—small cafe or lunchroom	C	D	C	C	D	D	48

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
298. Retail dealer*—art supplies and pictures	B	D	C	C	D	C	41
299. Retail dealer—automobile dealer; average size business	B	C	B	B	D	D	22
300. Retail dealer—baker	C	D	C	C	D	D	48
301. Retail dealer—books and stationery	B	D	C	C	D	D	42
302. Retail dealer—boots and shoes	C	D	C	C	D	D	48
303. Retail dealer—butcher	C	C	C	C	D	D	46
304. Retail dealer — buyer and shipper of livestock, grain, and farm produce	C	D	C	B	D	D	45
305. Retail dealer—candy and confectionery	C	D	C	C	D	C	63
306. Retail dealer—cigars, cigarettes, and tobacco	C	D	C	C	D	D	48
307. Retail dealer—coal and wood	C	D	C	C	D	D	48
308. Retail dealer—costumer or clothier for men and women	B	D	C	C	D	C	41
309. Retail dealer—dairyman; small dairy	C	D	C	C	D	D	46
310. Retail dealer—department store dealer	B	D	C	B	D	D	37
311. Retail dealer—druggist or pharmacist	B	C	C	B	D	D	32
312. Retail dealer—drygoods, fancy goods, notions	C	D	C	B	D	D	45
313. Retail dealer—florist	C	D	C	C	D	C	63
314. Retail dealer—flour and feed	C	D	C	C	D	D	48

*The title "Retail dealer" includes only the owner or manager of a store or shop, not an employee.

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	Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
315.	Retail dealer—fishmonger	C	D	C	C	D	D	48
316.	Retail dealer—fruitman	C	D	C	C	D	D	48
317.	Retail dealer—furniture	C	C	C	B	D	C	....
318.	Retail dealer—furrier	B	D	C	B	D	C	....
319.	Retail dealer—garage keeper	C	B	C	B	D	D	....
320.	Retail dealer—general store, in country	C	C	C	B	D	D	54
321.	Retail dealer—grocer	C	D	C	B	D	D	45
322.	Retail dealer—haberdasher	B	D	C	C	D	C	41
323.	Retail dealer—harness, saddlery, leather, hides	C	C	C	C	D	D	46
324.	Retail dealer—hardware	B	C	C	B	D	D	32
325.	Retail dealer—ice	C	D	C	C	D	D	48
326.	Retail dealer—jeweler	B	C	C	C	D	C	....
327.	Retail dealer—lumber	C	C	C	B	D	D	54
328.	Retail dealer—music store; sheet music, scores, etc., including musical instruments	B	D	C	C	C	D	....
329.	Retail dealer—newsdealer	D	D	C	C	D	D	68
330.	Retail dealer—oil, paint, wall paper	C	D	C	B	D	D	45
331.	Retail dealer—optician	B	B	C	C	D	D	....
332.	Retail dealer—popcorn stand	D	D	C	D	D	D	66
333.	Retail dealer—produce and provisions	C	D	C	C	D	D	48
334.	Retail dealer—tailor	C	C	C	C	D	D	46
335.	Riveter—steel construction work	C	C	D	D	D	D	47
336.	Roofer and slater—applies roofing materials	D	C	D	D	D	D	65

	Occupation — S —	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
337.	Sailor—deck hand	D	D	D	D	D	D	70
338.	Sales clerk—retail selling from counter	C	D	C	C	D	D	48
339.	Salesman—automobile	B	C	A	C	D	D	....
340.	Salesman—specialty	C	C	A	C	D	D	....
341.	Salesman—stocks and bonds	B	D	A	B	D	D	24
342.	Salesman—technical; college trained	A	B	A	B	D	D	....
342a.	Salesman—telephone, contacts prospects by telephone	C	D	C	C	D	D	48
343.	Salesman—traveling; retail; sells drugs, groceries, dry-goods, etc.	B	D	A	B	D	D	24
344.	Salesman—traveling; wholesale; orders taken from stores for clothing, groceries, etc.	B	D	A	B	D	D	24
345.	Sawmill worker—heavy work; little skill required	D	C	D	D	D	D	65
346.	Scientist—applied; psychologist, bacteriologist, etc.	A	B	C	B	D	D	4
347.	Sculptor—great; national reputation	A	A	C	D	D	A	....
348.	Secretary — private secretary to high government official, business or professional man	A	D	B	A	D	D	7
349.	Section hand — on railroad, replaces ties, etc., under supervision	D	D	D	D	D	D	70

[*Servant*]

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
350. Servant—personal and domestic, including butler, coachman, footman, maid, valet, etc.	D	D	C	D	D	D	66
351. Sheet metal worker—in factory; routine work	D	C	D	D	D	D	65
352. Sheriff—county	C	D	A	B	D	D	....
353. Ship rigger—installs cordage system on sailing vessels under supervision	D	B	D	D	D	D	64
354. Shop mechanic—railroad	C	B	D	D	D	D	44
355. Show card writer—letters cards for theatres, stores, etc.	C	C	D	C	D	C	60
356. Showman—manager of theatrical production	B	D	B	C	D	C	....
357. Sign painter—paints large outdoor signs	C	C	D	C	D	C	60
358. Singer—in musical production; opera, musical comedy, etc.	C	D	C	D	B	D	56
359. Smelter worker — operates blast furnace used in smelting and refining ores	D	C	D	D	D	D	65
360. Social worker—routine worker; writes case histories, etc., special training required	A	D	A	B	D	D	6
361. Social worker — supervisor, head of department; college training required	A	D	A	A	D	D	....
361a. Social worker—group, supervises group work, leisure time	A	D	A	C	..	..	....
362. Soldier—private in standing army	D	D	D	D	D	D	70

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
363. Stage hand — manipulates scenery in large theatre or opera house	D	C	D	D	D	D	65
364. Station agent—in small town; acts as baggage man, freight agent, etc.	C	C	C	B	D	D	54
365. Statistician—engaged in original research in statistics; college training in mathematics necessary	A	D	D	A	D	D	15
366. Statistician — clerical work; manipulation of formulas under supervision	B	D	D	A	D	D	....
367. Steeple jack—paints and repairs church spires, flagpoles, etc.	C	B	D	D	D	D	44
368. Stenographer—writes shorthand, and uses typewriter	B	D	C	B	D	D	37
369. Stock clerk—checks stock in factory, large department store or wholesale house	C	D	D	B	D	D	57
370. Stone cutter—quarry worker	D	C	D	D	D	D	65
371. Stone mason—skilled worker	C	B	D	D	D	C	43
372. Street sweeper—in city	D	D	D	D	D	D	70
373. Structural steel worker—heavy work demanding some skill	D	B	D	D	D	D	64
374. Surgeon—great	A	A	B	C	D	D	2
375. Surveyor—transit man; city or county	B	B	D	C	D	D	30
376. Switchman and flagman—tends switch in railroad yard	D	B	D	D	D	D	64

Occupation — T —	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
377. Tailor—not owner; works in tailor shop	C	C	D	D	D	D	47
378. Teacher, art—grammar school	B	C	B	C	D	B	23
379. Teacher, art—high school; 3 to 4 years of special training	A	B	B	C	D	B	....
380. Teacher, art—college or art school; training pupils for careers in art	A	B	B	C	D	A	....
381. Teacher, athletics and dancing—special training required	B	C	B	C	D	D	31
382. Teacher—college (B.A. or M.A.); not most progressive	A	D	C	C	D	D	....
383. Teacher — grammar school (normal school graduate); expects to make profession of teaching	B	D	B	C	D	D	35
384. Teacher—high school (college graduate)	A	D	B	C	D	D	13
385. Teacher, manual training—special training necessary	B	A	B	C	D	C	....
386. Teacher, music—band instruments	B	B	B	C	B	D	....
387. Teacher, music — college; practical work; trains for teacher of music, or concert career	A	D	B	C	A	D	9
388. Teacher, music — college; theoretical; history and theory of music	A	D	C	C	A	D	14

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
389. Teacher, music—grammar school; teaches simple songs and fundamentals of music	B	D	B	C	B	D	26
390. Teacher, music—high school; leads group singing; has charge of glee clubs, orchestras, bands, etc.	A	C	B	C	B	D	....
391. Teacher, music—instrumental or vocal, in small town	B	C	B	C	B	D	....
392. Teacher, music — private lessons on piano, violin, or voice; training for concert work	B	C	B	C	A	D	....
393. Teacher, primary—no college training; 2 years' special training	B	D	B	C	D	D	35
394. Telegraph operator—special training and skill	B	C	D	B	D	D	....
395. Telephone operator—special training	C	D	C	C	D	D	48
396. Textile worker—routine factory work	D	D	D	D	D	D	70
397. Theatre usher	D	D	C	D	D	D	66
398. Tinsmith — makes vessels, utensils from plated or sheet metal, and does repair work	C	B	D	D	D	D	44
399. Toolmaker—highly skilled work in factory	C	A	D	C	D	D	49

	Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
400.	Track layer—does heavy work under supervision	D	C	D	D	D	D	65
401.	Train dispatcher—must be mentally alert	B	C	C	B	D	D	32
402.	Truck driver—heavy work	D	B	D	D	D	D	64
403.	Typist—no shorthand; types from copy	C	D	D	B	D	D	57
	— U —							
404.	Undertaker — embalmer; 6 months to 1 year of training	C	C	C	D	D	D	59
405.	Undertaker—funeral director	B	C	B	C	D	D	31
406.	Upholsterer—renovator of furniture, etc., small shop	C	C	D	D	D	D	47
	— V —							
407.	Veterinary doctor—special training; some college work	A	B	C	C	D	D	....
408.	Vulcanizer—understands process of hardening rubber	C	B	D	D	D	D	44
	— W —							
409.	Waiter—in small restaurant or cafe	D	D	C	D	D	D	66
410.	Waiter, head—in hotel or restaurant; in charge of dining room waiters	C	D	B	C	D	D	55
411.	Waterworks man—a variety of jobs, all unskilled	D	C	D	D	D	D	65
412.	Wheelwright—makes or repairs wheels; small shop	C	B	D	D	D	D	44
413.	Wholesale dealer — fairly small; including exporter and importer	B	D	C	C	D	D	42

Occupation	Academic Ability	Mechanical Ability	Social Ability	Clerical Ability	Musical Ability	Artistic Ability	Pattern Number
414. Wood carver—highly skilled work in furniture factory	C	B	D	D	D	C	43
415. Writer, author — magazine articles or books; either fiction or non-fiction	A	D	B	C	D	D	13
416. Writer, author—great	A	D	A	B	D	D	6
— Y —							
417. Yardman—railroad	D	C	D	D	D	D	65
418. Y.M.C.A. official—secretary, etc.	B	D	B	B	D	D	25

Section III

Classifications of Occupations Grouped by Kinds and Levels of Ability

This section presents a classification of the occupations listed in Section II according to kinds and levels of ability. Under each kind of ability grouping are included those occupations demanding "A" and "B" levels of ability. It is obvious that the counselor dealing with an individual who has "better than average" mechanical ability or artistic ability will find it convenient to be able to identify quickly those occupations which demand "A" or "B" mechanical ability or "A" or "B" artistic ability, as the case may be. In other words, no new data about occupations are included in this section. The data already presented in Section II are merely rearranged for the purpose of ready reference.

It will be noted that the general plan of grouping "A" and "B" level occupations together for the special abilities is not followed in grouping together occupations in terms of the amounts of academic ability required. In this instance "C" and "D" level occupations are also listed. The reason for this special treatment is that counselors are most frequently confronted with the problem of counseling individuals who are average or below average in academic ability. Of course, if the individual is above average in one of the special abilities, the counselor will locate possible occupations grouped under the appropriate ability. On the other hand, if an individual with low academic ability is only average or lower in all abilities, then the counselor will find it helpful to locate in one list representative jobs into which economic competition will probably force such an individual to enter.

This method of grouping jobs reveals two interesting and important facts about occupations. At the outset it is obvious that "A" and "B" level jobs in terms of academic ability generally require an "A" or "B" level of some special ability. It is also clear that there are a surprising number of "C" and "D" level jobs, not only in academic ability but also in the special abilities. In other words, in large numbers of jobs no ability need be above "C."

Jobs Requiring "A" Academic Ability

Counselors in schools would do well to call the attention of school administrators and teachers to the fact that **the individuals who work at jobs requiring only "C" and "D" levels in all abilities covered, do not require large amounts of general education.** Nevertheless, scrutiny of this list of jobs shows that many of them require specialized vocational training and that some of them require intensive and long continued vocational training. In other words, vocational education, which obviously should be provided for those who have above average special abilities, must also be provided for those of lesser talents. Study of these various lists of occupations automatically forces the attention of the educator to the desirability of developing a realistic program of education which will mesh with the requirements of the world of work.

Jobs Requiring "A" Academic Ability

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
1.	Accountant	15	A			A		
3.	Actor, highest	....	A		B			
5.	Advertising expert	13	A		B			
13.	Architect	....	A	A				A
16.	Arranger, music, symphony	....	A			B	A	
18.	Astronomer	4	A	B		B		
24.	Banker in large bank	7	A		B	A		
25.	Banker, small town	7	A		B	A		
40.	Broker, loan	8	A		B	B		
43.	Broker, promoter	6	A		A	B		
57.	Chemist	12	A	B				
75.	Composer, classical	14	A				A	
77.	Concert artist	....	A				A	
82.	Conductor, symphony	9	A		B		A	
92.	Dentist, great	2	A	A	B			
98.	Designer, machinery	10	A	A				
101.	Designer, stage	....	A	A				A

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
110.	Druggist	16	A					
114.	Editor, small paper	1	A	B	B	B		
115.	Editor, large city paper	8	A		B	B		
116.	Educ. administrator	8	A		B	B		
120.	Employment manager	8	A		B	B		
121.	Engineer, architectural	....	A	A	B	B		A
122.	Engineer, civil	....	A	A		B		
123.	Engineer, consulting	....	A	A	B	B		
124.	Engineer, electrical	....	A	A		B		
126.	Engineer, mechanical	10	A	A				
128.	Engineer, mining	11	A	A				
130.	Engineer, technical	11	A	A				
154.	Geologist	12	A	B				
164.	Hotel manager	8	A		B	B		
176.	Inventive genius	11	A	A				
177.	Inventor, commercial appliance	11	A	A				
181.	Journalist	8	A		B	B		
182.	Judge	8	A		B	B		
188.	Land owner, large	5	A		B	B		
193.	Lawyer, average	8	A		B	B		
194.	Lawyer, eminent	6	A		A	B		
210.	Manager, superintendent, factory	5	A		B	B		
219.	Merchant, great	8	A		B	B		
220.	Merchant, great, wholesale	8	A		B	B		
234.	Music critic	....	A		B		B	
235.	Music publisher	....	A		B	B	B	
238.	Nurse, registered	16	A					
239a.	Occupational therapist	....	A	B	B			
240.	Oculist	3	A	B	B			

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
242.	Officer, army	5	A		B	B		
243.	Officer, ship	1	A	B	B	B		
245.	Official, manufacturing company	5	A		B	B		
246.	Official, insurance company	8	A		B	B		
247.	Official, railroad	1	A	B	B	B		
248.	Official, state, federal	8	A		B	B		
250.	Operatic director	....	A		B		A	B
255.	Osteopath	3	A	B	B			
264.	Physician, surgeon	3	A	B	B			
272.	Portrait painter	....	A	B	B			A
276.	Preacher	....	A		A			
277.	President, college	8	A		B	B		
282.	Professor, university	5	A		B	B		
295.	Reporter	6	A		A	B		
296.	Research leader	....	A	B		B		
342.	Salesman, technical	....	A	B	A	B		
346.	Scientist, applied	4	A	B		B		
347.	Sculptor, great	....	A	A				A
348.	Secretary, private	7	A		B	A		
360.	Social worker, routine	6	A		A	B		
361.	Social worker, supervisor	....	A		A	A		
361a.	Social worker, group	....	A		A			
365.	Statistician, original, research	15	A			A		
374.	Surgeon, great	2	A	A	B			
379.	Teacher, art, high school	....	A	B	B			B
380.	Teacher, art, college	....	A	B	B			A
382.	Teacher, college	....	A					
384.	Teacher, high school	13	A		B			

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
387.	Teacher, music, college, practical	9	A		B		A	
388.	Teacher, music, college, theoretical	14	A				A	
390.	Teacher, music, high school	....	A		B		B	
407.	Veterinary doctor	....	A	B				
415.	Writer, magazine, book	13	A		B			
416.	Writer, great	6	A		A	B		

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Jobs Requiring "B" Academic Ability

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
2.	Actor, average	39	B				B	
4a.	Adjustor, insurance	25	B		B	B		
6.	Advertising artist	....	B					B
7.	Agent, express	37	B			B		
12.	Appraiser	37	B			B		
14.	Arranger music, general	27	B			B	B	
15.	Arranger music, popular	27	B			B	B	
22.	Aviator	29	B	A				
26.	Bank teller	36	B			A		
36.	Bookkeeper	38	B			B		
41.	Broker, pawn	35	B		B			
42.	Broker, commission man	25	B		B	B		
44.	Builder	....	B	A	B	B		
46.	Buyer, department store	....	B		B	B		B
47.	Buyer, hardware store	22	B		B	B		
51.	Cartoonist	....	B		B			B
53.	Caterer	....	B		B			B
59.	Chiropractor	31	B		B			
60.	Choir director	....	B		B		A	
68.	Clerk, railroad	38	B			B		
69.	Clerk, shipping	38	B			B		
73.	Compiler	38	B			B		
74.	Composer, popular	....	B				B	
79.	Conductor, railroad	37	B			B		
80.	Conductor, concert band	26	B		B		B	
85a.	Correspondence clerk	25	B		B	B		
85b.	Credit manager	25	B		B	B		
87.	Dancer	....	B				B	B
89.	Decorator	33	B					B

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
91.	Dentist, small town	18	B	A	B			
93.	Designer, automobile	19	B	A				B
94.	Designer, jewelry	19	B	A				B
95.	Designer, furniture	19	B	A				B
96.	Designer, millinery	33	B					B
97.	Designer, clothing, high grade women's	....	B	B				B
99.	Designer, textiles	21	B	B				B
100.	Designer, clothing, ready-made for men and women	21	B	B				B
102.	Designer, tapestries	21	B	B				B
103.	Designer, wall paper	21	B	B				B
104.	Detective	31	B		B			
106.	Draftsman	....	B	B		B		
120a.	Employment interviewer	35	B		B			
125.	Engineer, locomotive	28	B	A				
127.	Engineer, marine	29	B	A				
132.	Executive, minor	22	B		B	B		
143.	Foreman, construction	20	B	B	B			
144.	Foreman, small factory	18	B	A	B			
145.	Foreman, large factory	17	B	B	B	B		
146.	Foreman, transportation	20	B	B	B			
148.	Forest ranger	40	B					
152.	Gardener	....	B					
163.	Hotel keeper	35	B		B			
167.	Illustrator, books	33	B					B
172.	Inspector, telephone	....	B	B				
174.	Insurance agent	24	B		A	B		
175.	Interior decorator	....	B	B	B			B
175a.	Interviewer	35	B		B			
184.	Justice of peace	42	B					

Typical Workers on Jobs Requiring A, B, and C Levels of Academic Ability:

A: Chemist (Occupation No. 57)

B: Photographer (Occupation No. 263)

C: Floriculturist (Occupation No. 142)

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
185.	Keeper, institution	35	B		B			
189.	Landscape architect	23	B		B			B
192.	Laundry owner	31	B		B			
197.	Librarian, small institution	43	B			A		
198.	Librarian, symphony	36	B			B		
211.	Manufacturer	17	B	B	B	B		
213.	Master ceremonies	....	B		B		B	
218.	Mechanic, master	28	B	A				
218a.	Medical technician	30	B	B				
239.	Nurseryman	40	B					
244.	Official, city	31	B		B			
252.	Organist, large church	....	B				A	
253.	Organist, large theatre	....	B				B	
258.	Painter, murals	....	B					A
262.	Photo-engraver	....	B	B				
263.	Photographer	....	B	B				
270.	Politician	34	B		A			
273.	Postmaster	....	B		B	A		
278.	Printer, small shop	....	B	B		B		
279.	Probation officer	35	B		B			
284.	Radio announcer	....	B		B	B		
285.	Radio artist	39	B				B	
286.	Radio operator	....	B	B				
287.	Real estate agent	34	B		A			
298.	Retail dealer, art	41	B					
299.	Retail dealer, auto	22	B		B	B		
301.	Retail dealer, books	42	B					
308.	Retail dealer, costumer	41	B					
310.	Retail dealer, department store	37	B			B		
311.	Retail dealer, drug store	32	B			B		

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
318.	Retail dealer, furrier	....	B			B		
322.	Retail dealer, haberdashery	41	B					
324.	Retail dealer, hardware	32	B			B		
326.	Retail dealer, jeweler	....	B					
328.	Retail dealer, music store	....	B					
331.	Retail dealer, optician	....	B	B				
339.	Salesman, automobile	....	B		A			
341.	Salesman, stocks	24	B		A	B		
343.	Salesman, traveling, retail	24	B		A	B		
344.	Salesman, traveling, wholesale	24	B		A	B		
356.	Showman, manager	....	B		B			
366.	Statistician, clerical worker	....	B			A		
368.	Stenographer	37	B			B		
375.	Surveyor	30	B	B				
378.	Teacher, art, grades	23	B		B			B
381.	Teacher, athletic	31	B		B			
383.	Teacher, grammar school	35	B		B			
385.	Teacher, manual training	....	B	A	B			
386.	Teacher, music, band	....	B	B	B		B	
389.	Teacher, music, grades	26	B		B		B	
391.	Teacher, music instructor	....	B		B		B	
392.	Teacher, music, private	....	B		B		A	
393.	Teacher, primary	35	B		B			
394.	Telegraph operator	....	B			B		
401.	Train dispatcher	32	B			B		
405.	Undertaker, funeral director	31	B		B			
413.	Wholesale dealer	42	B					
418.	Y.M.C.A. official	25	B		B	B		

Jobs Requiring "C" Academic Ability and No Special Abilities Above "C"

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
11.	Apiarist	....	C	D	D	D	D	D
17.	Athlete, professional	59	C	C	C	D	D	D
28.	Barber, owner	46	C	C	C	C	D	D
50.	Carpenter	47	C	C	D	D	D	D
56.	Chef	62	C	C	D	D	D	C
58.	Chiropodist	59	C	C	C	D	D	D
64.	Clerk, art store	63	C	D	C	C	D	C
65.	Clerk, music store	....	C	D	C	C	C	D
67.	Clerk, filing	....	C	D	D	C	D	D
72.	Collector	48	C	D	C	C	D	D
83.	Conductor, street car	48	C	D	C	C	D	D
108.	Dressmaker, home	58	C	C	C	C	D	C
112.	Dry cleaner, owner	46	C	C	C	C	D	D
135.	Farmer, owner	46	C	C	C	C	D	D
142.	Floriculturist	62	C	C	D	D	D	C
169.	Inspector, sampler	61	C	C	D	C	D	D
170.	Inspector, lumber	47	C	C	D	D	D	D
173.	Inspector, street railroad	61	C	C	D	C	D	D
200.	Lighthouse keeper	47	C	C	D	D	D	D
209.	Mail carrier, rural	48	C	D	C	C	D	D
212.	Marshall, constable	....	C	D	C	D	D	D
216.	Mechanic, foundry	47	C	C	D	D	D	D
217.	Mechanic, general	47	C	C	D	D	D	D
224.	Milliner, owner	58	C	C	C	C	D	C
228.	Monument maker	60	C	C	D	C	D	C
231.	Motorman, electric railway	47	C	C	D	D	D	D
237.	Notary public	48	C	D	C	C	D	D
238a.	Nurse, practical	46	C	C	C	C	D	D
256.	Painter, general	47	C	C	D	D	D	D

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
268.	Policeman, average	48	C	D	C	C	D	D
274.	Potter	62	C	C	D	D	D	C
294.	Repairman, tire	47	C	C	D	D	D	D
297.	Restaurant keeper	48	C	D	C	C	D	D
300.	Retail dealer, baker	48	C	D	C	C	D	D
302.	Retail dealer, boots	48	C	D	C	C	D	D
303.	Retail dealer, butcher	46	C	C	C	C	D	D
305.	Retail dealer, candy	63	C	D	C	C	D	C
306.	Retail dealer, cigars	48	C	D	C	C	D	D
307.	Retail dealer, coal	48	C	D	C	C	D	D
309.	Retail dealer, dairy	46	C	C	C	C	D	D
313.	Retail dealer, florist	63	C	D	C	C	D	C
314.	Retail dealer, flour	48	C	D	C	C	D	D
315.	Retail dealer, fishmonger	48	C	D	C	C	D	D
316.	Retail dealer, fruitman	48	C	D	C	C	D	D
323.	Retail dealer, harness	46	C	C	C	C	D	D
325.	Retail dealer, ice	48	C	D	C	C	D	D
333.	Retail dealer, produce	48	C	D	C	C	D	D
334.	Retail dealer, tailor	46	C	C	C	C	D	D
335.	Riveter	47	C	C	D	D	D	D
338.	Sales clerk, retail	48	C	D	C	C	D	D
342a.	Salesman, telephone	48	C	D	C	C	D	D
355.	Show-card writer	60	C	C	D	C	D	C
357.	Sign painter	60	C	C	D	C	D	C
377.	Tailor, not owner	47	C	C	D	D	D	D
395.	Telephone operator	48	C	D	C	C	D	D
404.	Undertaker, embalmer	59	C	C	C	D	D	D
406.	Upholsterer	47	C	C	D	D	D	D

Jobs Requiring "D" Academic Ability and No Special Abilities Above "C"

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
20.	Auto assembler	65	D	C	D	D	D	D
23.	Baker, employee	70	D	D	D	D	D	D
27.	Barber, not owner	67	D	C	C	D	D	D
29.	Bartender	68	D	D	C	C	D	D
30.	Bell boy	66	D	D	C	D	D	D
31.	Blacksmith	65	D	C	D	D	D	D
32.	Boatman	70	D	D	D	D	D	D
33.	Boiler maker	65	D	C	D	D	D	D
34.	Boiler washer	70	D	D	D	D	D	D
37.	Bootblack	66	D	D	C	D	D	D
45.	Butcher, not owner	65	D	C	D	D	D	D
49.	Canvas worker	65	D	C	D	D	D	D
54.	Chambermaid	70	D	D	D	D	D	D
62.	Circus roustabout	65	D	C	D	D	D	D
63.	Cleaner	70	D	D	D	D	D	D
71.	Cobbler	65	D	C	D	D	D	D
78.	Concrete worker	65	D	C	D	D	D	D
84.	Cook	65	D	C	D	D	D	D
85.	Cooper	65	D	C	D	D	D	D
86.	Dairy hand	70	D	D	D	D	D	D
88.	Day laborer	70	D	D	D	D	D	D
90.	Deliveryman	67	D	C	C	D	D	D
105.	Ditcher	70	D	D	D	D	D	D
107.	Drayman	69	D	D	D	C	D	D
109.	Dressmaker's helper	70	D	D	D	D	D	D
111.	Dry cleaner, employee	70	D	D	D	D	D	D
113.	Dyer	70	D	D	D	D	D	D
119.	Elevator operator	66	D	D	C	D	D	D
133.	Farm laborer	70	D	D	D	D	D	D
134.	Farm tenant	65	D	C	D	D	D	D

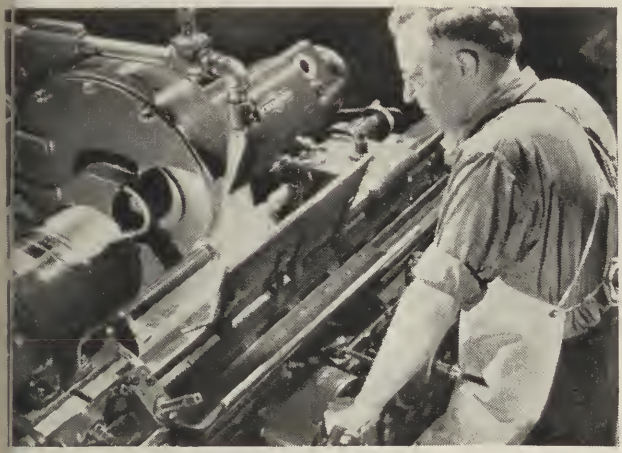
Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
139.	Fireman, stationary engineer	65	D	C	D	D	D	D
140.	Fisherman	70	D	D	D	D	D	D
149.	Foundry worker	65	D	C	D	D	D	D
150.	Garbage collector	70	D	D	D	D	D	D
151.	Gardener, private home	65	D	C	D	D	D	D
156.	Guard, watchman	70	D	D	D	D	D	D
158.	Hairdresser	67	D	C	C	D	D	D
160.	Hobo, vagrant	70	D	D	D	D	D	D
161.	Hospital attendant	66	D	D	C	D	D	D
162.	Hostler	65	D	C	D	D	D	D
165.	Housekeeper, private home	66	D	D	C	D	D	D
166.	Huckster	68	D	D	C	C	D	D
178.	Irrigator	70	D	D	D	D	D	D
179.	Janitor, sexton	65	D	C	D	D	D	D
183.	Junkman	70	D	D	D	D	D	D
186.	Laborer, factory	70	D	D	D	D	D	D
187.	Laborer, construction	70	D	D	D	D	D	D
190.	Lathe operator	70	D	D	D	D	D	D
191.	Laundry worker	65	D	C	D	D	D	D
196.	Letter carrier	68	D	D	C	C	D	D
199.	Life saver	66	D	D	C	D	D	D
205.	Longshoreman	70	D	D	D	D	D	D
207.	Lumberman, laborer	70	D	D	D	D	D	D
221.	Messenger boy	68	D	D	C	C	D	D
222.	Miller, feed mill	65	D	C	D	D	D	D
225.	Milliner's helper	70	D	D	D	D	D	D
227.	Miner, digger	65	D	C	D	D	D	D
229.	Motorcyclist	65	D	C	D	D	D	D
230.	Motorman, street railroad	65	D	C	D	D	D	D
233.	Munition worker	65	D	C	D	D	D	D
241.	Odd job man	65	D	C	D	D	D	D
251.	Operative, factory	70	D	D	D	D	D	D

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
257.	Painter, glazier	65	D	C	D	D	D	D
259.	Paper hanger	65	D	C	D	D	D	D
271.	Porter	66	D	D	C	D	D	D
275.	Poultry raiser	69	D	D	D	C	D	D
329.	Retail dealer, news	68	D	D	C	C	D	D
332.	Retail dealer, pop corn	66	D	D	C	D	D	D
336.	Roofer, slater	65	D	C	D	D	D	D
337.	Sailor	70	D	D	D	D	D	D
345.	Sawmill worker	65	D	C	D	D	D	D
349.	Section hand	70	D	D	D	D	D	D
350.	Servant, personal, domestic	66	D	D	C	D	D	D
351.	Sheet metal worker	65	D	C	D	D	D	D
359.	Smelter worker	65	D	C	D	D	D	D
362.	Soldier, private	70	D	D	D	D	D	D
363.	Stage hand	65	D	C	D	D	D	D
370.	Stone cutter	65	D	C	D	D	D	D
372.	Street sweeper	70	D	D	D	D	D	D
396.	Textile worker	70	D	D	D	D	D	D
397.	Theatre usher	66	D	D	C	D	D	D
400.	Track layer	65	D	C	D	D	D	D
409.	Waiter	66	D	D	C	D	D	D
411.	Waterworks man	65	D	C	D	D	D	D
417.	Yardman, railroad	65	D	C	D	D	D	D

Jobs Requiring "A" Mechanical Ability

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
13.	Architect	....	A	A				A
22.	Aviator	29	B	A				
44.	Builder	....	B	A	B	B		
91.	Dentist, small town	18	B	A	B			
92.	Dentist, great	2	A	A	B			
93.	Designer, automobile	19	B	A				B
94.	Designer, jewelry	19	B	A				B
95.	Designer, furniture	19	B	A				B
98.	Designer, machinery	10	A	A				
101.	Designer, stage	....	A	A				A
118.	Electrotyper	50		A				
121.	Engineer, architecture	....	A	A	B	B		A
122.	Engineer, civil	....	A	A		B		
123.	Engineer, consulting	....	A	A	B	B		
124.	Engineer, electrical	....	A	A		B		
125.	Engineer, locomotive	28	B	A				
126.	Engineer, mechanical	10	A	A				
127.	Engineer, marine	29	B	A				
128.	Engineer, mining	11	A	A				
130.	Engineer, technical	11	A	A				
144.	Foreman, small factory	18	B	A	B			
176.	Inventive genius	11	A	A				
177.	Inventor, commercial appliance	11	A	A				
180.	Jeweler, factory	51		A				
203.	Lithographer	50		A				
214.	Mechanic, aeronautic	51		A				
218.	Mechanic, master	28	B	A				
260.	Pattern maker, metal	49		A				
261.	Pattern maker, wood	49		A				

Typical Workers on Jobs Requiring A, B, and C Levels of Mechanical Ability:



A: Toolmaker (Occupation No. 399)

B: Surveyor (Occupation No. 375)

C: Laundry Worker (Occupation No. 191)

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
293.	Repairman, radio	49		A				
347.	Sculptor, great	....	A	A				A
374.	Surgeon, great	2	A	A	B			
385.	Teacher, manual training	....	B	A	B			
399.	Toolmaker	49		A				

Jobs Requiring "B" Mechanical Ability

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
10.	Annealer	44		B				
18.	Astronomer	4	A	B		B		
21.	Auto racer	44		B				
35.	Bookbinder	44		B				
38.	Brakeman	64		B				
39.	Bricklayer	64		B				
48.	Cabinet maker	43		B				
55.	Chauffeur, taxi, bus	....		B				
57.	Chemist, industrial	12	A	B				
76.	Compositor	52		B				
97.	Designer, clothing, high grade women	....	B	B				B
99.	Designer, textiles	21	B	B				B
100.	Designer, clothing, ready-made for men and women	21	B	B				B
102.	Designer, tapestries	21	B	B				B
103.	Designer, wall paper	21	B	B				B
106.	Draftsman	....	B	B		B		
114.	Editor, small paper	1	A	B	B	B		
117.	Electrician	44		B				
129.	Engineer, stationary	44		B				
131.	Engraver	43		B				
136.	Finisher, metal	64		B				
137.	Firefighter	64		B				
138.	Fireman, railroad	64		B				
143.	Foreman, construction	20	B	B	B			
145.	Foreman, large factory	17	B	B	B	B		
146.	Foreman, transportation	20	B	B	B			
153.	Gardener, landscape	....		B				
154.	Geologist	12	A	B				

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
155.	Glass blower	43		B				
157.	Gunsmith	44		B				
159.	Harness maker	44		B				
171.	Inspector, music instructor	53		B				
172.	Inspector, telephone	....	B	B				
175.	Interior decorator	....	B	B	B			B
195.	Leather worker	43		B				
201.	Lineman	44		B				
202.	Linotype operator	....		B		B		
207a.	Machine job setter	....		B				
208.	Machinist	44		B				
211.	Manufacturer	17	B	B	B	B		
215.	Mechanic, automobile	44		B				
218a.	Medical technician	30	B	B				
223.	Miller, flour mill	52		B				
226.	Millwright	44		B				
232.	Moving picture operator	44		B				
239a.	Occupational therapist	....	A	B	B			
240.	Oculist	3	A	B	B			
243.	Officer, shipping	1	A	B	B	B		
247.	Official, railroad	1	A	B	B	B		
249.	Oil well driller	64		B				
254.	Ornamental iron worker	....		B				
255.	Osteopath	3	A	B	B			
262.	Photo-engraver	....	B	B				
263.	Photographer	....	B	B				
	Physician-surgeon	3	A	B	B			
265.	Piano, organ tuner	53		B				
266.	Plasterer	44		B				
267.	Plumber	44		B				
272.	Portrait painter	....	A	B	B			A

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
278.	Printer, small shop	....	B	B		B		
281.	Professional musician, concert band	....		B			B	
286.	Radio operator	....	B	B				
289.	Repairman, electrical	52		B				
290.	Repairman, general	44		B				
291.	Repairman, mechanical	44		B				
292.	Repairman, music	53		B				
296.	Research leader	....	A	B		B		
319.	Retail dealer, garage	....		B		B		
331.	Retail dealer, optician	....	B	B				
342.	Salesman, technical	....	A	B	A	B		
346.	Scientist, applied	4	A	B		B		
353.	Ship rigger	64		B				
354.	Shop mechanic, railroad	44		B				
367.	Steeple jack	44		B				
371.	Stone mason	43		B				
373.	Structural steel worker	64		B				
375.	Surveyor	30	B	B				
376.	Switchman, flagman	64		B				
379.	Teacher, art, high school	....	A	B	B			B
380.	Teacher, art, college	....	A	B	B			A
386.	Teacher, music, band	....	B	B	B		B	
398.	Tinsmith	44		B				
402.	Truck driver	64		B				
407.	Veterinary doctor	....	A	B				
408.	Vulcanizer	44		B				
412.	Wheelwright	44		B				
414.	Wood carver	43		B				

Jobs Requiring "A" Social Ability

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below				
			Ac.	Me.	So.	Cl.	Mu. Ar.
8.	Agent, canvasser	....			A		
19.	Auctioneer	....			A		
43.	Broker, promoter	6	A		A	B	
174.	Insurance agent	24	B		A	B	
194.	Lawyer, eminent	6	A		A	B	
270.	Politician	34	B		A		
276.	Preacher	....	A		A		
287.	Real estate agent	34	B		A		
295.	Reporter	6	A		A	B	
339.	Salesman, automobile	....	B		A		
340.	Salesman, specialty	....			A		
341.	Salesman, stocks	24	B		A	B	
342.	Salesman, technical	....	A	B	A	B	
343.	Salesman, traveling	24	B		A	B	
344.	Salesman, traveling, wholesale	24	B		A	B	
352.	Sheriff, county	....			A	B	
360.	Social worker, routine worker	6	A		A	B	
361.	Social worker, supervisor	....	A		A	A	
361a.	Social worker, group	....	A		A		
416.	Writer, great	6	A		A	B	

Jobs Requiring "B" Social Ability

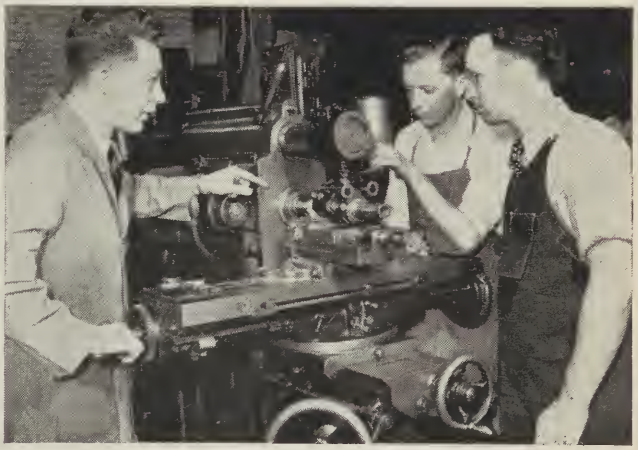
Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
3.	Actor, highest	....	A		B			
4a.	Adjustor, insurance	25	B		B	B		
5.	Advertising expert	13	A		B			
24.	Banker, large city	7	A		B	A		
25.	Banker, small town	7	A		B	A		
40.	Broker, loan	8	A		B	B		
41.	Broker, pawn	35	B		B			
42.	Broker, commission man	25	B		B	B		
44.	Builder	....	B	A	B	B		
46.	Buyer, department store	....	B		B	B		B
47.	Buyer, hardware store	22	B		B	B		
51.	Cartoonist	....	B		B			B
53.	Caterer	....	B		B			B
59.	Chiropractor	31	B		B			
60.	Choir director	....	B		B		A	
80.	Conductor, concert band, high class	26	B		B		B	
81.	Conductor, popular	....			B		B	
82.	Conductor, symphony	9	A		B		A	
85a.	Correspondence clerk	25	B		B	B		
85b.	Credit manager	25	B		B	B		
85c.	Credit clerk	55			B			
91.	Dentist, small town	18	B	A	B			
92.	Dentist, great	2	A	A	B			
104.	Detective	31	B		B			
114.	Editor, small paper	1	A	B	B	B		
115.	Editor, large city paper	8	A		B	B		
116.	Educational administrator	8	A		B	B		
120.	Employment manager	8	A		B	B		
120a.	Employment interviewer	35	B		B			

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
121.	Engineer, architectural	....	A	A	B	B		A
123.	Engineer, consulting	....	A	A	B	B		
132.	Executive, minor	22	B		B	B		
141.	Floorwalker	55			B			
143.	Foreman, construction	20	B	B	B			
144.	Foreman, small factory	18	B	A	B			
145.	Foreman, large factory	17	B	B	B	B		
146.	Foreman, transportation	20	B	B	B			
147.	Foreman, warehouse	....			B			
163.	Hotel keeper	35	B		B			
164.	Hotel manager	8	A		B	B		
175.	Interior decorator	....	B	B	B			B
175a.	Interviewer	35	B		B			
181.	Journalist	8	A		B	B		
182.	Judge	8	A		B	B		
185.	Keeper, institution	35	B		B			
188.	Land owner, large	5	A		B	B		
189.	Landscape architect	23	B		B			B
192.	Laundry owner	31	B		B			
193.	Lawyer, average	8	A		B	B		
206.	Lumberman, owner	....			B	B		
210.	Manager, superintendent, factory	5	A		B	B		
211.	Manufacturer	17	B	B	B	B		
213.	Master ceremonies	....	B		B		B	
219.	Merchant, great	8	A		B	B		
220.	Merchant, great, wholesale	8	A		B	B		
234.	Music critic	....	A		B		B	
235.	Music publisher	....	A		B	B	B	
239a.	Occupational therapist	....	A	B	B			
240.	Oculist	3	A	B	B			

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
242.	Officer, army	5	A		B	B		
243.	Officer, ship	1	A	B	B	B		
244.	Officer, city	31	B		B			
245.	Official, manufacturing company	5	A		B	B		
246.	Official, insurance company	8	A		B	B		
247.	Official, railroad	1	A	B	B	B		
248.	Official, state, federal	8	A		B	B		
250.	Operatic director	....	A		B		A	B
255.	Osteopath	3	A	B	B			
264.	Physician-surgeon	3	A	B	B			
269.	Policeman, sergeant	....			B	B		
272.	Portrait painter	....	A	B	B			A
273.	Postmaster	....	B		B	A		
277.	President, college	8	A		B	B		
279.	Probation officer	35	B		B			
282.	Professor, university	5	A		B	B		
283.	Pseudo-scientist	....			B			
284.	Radio announcer	....	B		B	B		
288.	Religious, charity worker	55			B			
299.	Retail dealer, automobile	22	B		B	B		
348.	Secretary, private	7	A		B	A		
356.	Showman, manager	....	B		B			
374.	Surgeon, great	2	A	A	B			
378.	Teacher, art, grades	23	B		B			B
379.	Teacher, art, high school	....	A	B	B			B
380.	Teacher, art, college	....	A	B	B			A
381.	Teacher, athletics	31	B		B			
383.	Teacher, grammar school	35	B		B			
384.	Teacher, high school	13	A		B			

Typical Workers on Jobs Requiring A, B, and C Levels of Social Ability:

A: Social Worker (Occupation No. 361)



B: Foreman (Occupation No. 145)

C: Sales Clerk (Occupation No. 338)

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
385.	Teacher, manual training	....	B	A	B			
386.	Teacher, music, band	....	B	B	B		B	
387.	Teacher, music, college	9	A		B		A	
389.	Teacher, music, grades	26	B		B		B	
390.	Teacher, music, high school	....	A		B		B	
391.	Teacher, music, instructor	....	B		B		B	
392.	Teacher, music, private	....	B		B		A	
393.	Teacher, primary	35	B		B			
405.	Undertaker, funeral director	31	B		B			
410.	Waiter, head	55			B			
415.	Writer, magazine, book	13	A		B			
418.	Y.M.C.A. official	25	B		B	B		

Jobs Requiring "A" Clerical Ability

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
1.	Accountant	15	A			A		
24.	Banker, large city	7	A		B	A		
25.	Banker, small town	7	A		B	A		
26.	Bank teller	36	B			A		
197.	Librarian, small institution	36	B			A		
273.	Postmaster	....	B		B	A		
348.	Secretary, private	7	A		B	A		
361.	Social worker, supervisor	....	A		A	A		
365.	Statistician, original research	15	A			A		
366.	Statistician, clerical work	....	B			A		

Jobs Requiring "B" Clerical Ability

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
4a.	Adjustor, insurance	25	B		B	B		
7.	Agent, express	37	B			B		
9.	Agent, ticket	45				B		
12.	Appraiser	37	B			B		
14.	Arranger, music, general	27	B			B	B	
15.	Arranger, music, popular	27	B			B	B	
16.	Arranger, music, symphony	....	A			B	A	
18.	Astronomer	4	A	B		B		
36.	Bookkeeper	38	B			B		
40.	Broker, loan	8	A		B	B		
42.	Broker, commission man	25	B		B	B		
43.	Broker, promoter	6	A		A	B		
44.	Builder	....	B	A	B	B		
46.	Buyer, department store	....	B		B	B		B

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
47.	Buyer, hardware store	22	B		B	B		
52.	Cashier	45				B		
66.	Clerk, express	45				B		
68.	Clerk, railroad	38	B			B		
69.	Clerk, shipping	38	B			B		
70.	Clerk, stock	57				B		
73.	Compiler	38	B			B		
79.	Conductor, railroad	37	B			B		
85a.	Correspondence clerk	25	B		B	B		
85b.	Credit manager	25	B		B	B		
106.	Draftsman	....	B	B		B		
114.	Editor, small paper	1	A	B	B	B		
115.	Editor, large city paper	8	A		B	B		
116.	Educational administrator	8	A		B	B		
120.	Employment manager	8	A		B	B		
121.	Engineer, architect	....	A	A	B	B		A
122.	Engineer, civil	....	A	A		B		
123.	Engineer, consulting	....	A	A	B	B		
124.	Engineer, electrical	....	A	A		B		
132.	Executive, minor	22	B		B	B		
145.	Foreman, large factory	17	B	B	B	B		
164.	Hotel manager	8	A		B	B		
174.	Insurance agent	24	B		A	B		
181.	Journalist	8	A		B	B		
182.	Judge	8	A		B	B		
188.	Land owner, large	5	A		B	B		
193.	Lawyer, average	8	A		B	B		
194.	Lawyer, eminent	6	A		A	B		
198.	Librarian, symphony	....	B			B		
202.	Linotype operator	....		B		B		
206.	Lumberman, owner	....			B	B		

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below				
			Ac.	Me.	So.	Cl.	Mu. Ar.
209a.	Mail carrier	45				B	
210.	Manager, superintendent, factory	5	A		B	B	
211.	Manufacturer	17	B	B	B	B	
219.	Merchant, great	8	A		B	B	
220.	Merchant, great, wholesale	8	A		B	B	
235.	Music publisher	....	A		B	B	B
242.	Officer, army	5	A		B	B	
243.	Officer, ship	1	A	B	B	B	
245.	Official, manufacturing company	5	A		B	B	
246.	Official, insurance company	8	A		B	B	
247.	Official, railroad	1	A	B	B	B	
248.	Official, state, federal	....	A		B	B	
269.	Policeman, sergeant	....			B	B	
277.	President, college	8	A		B	B	
278.	Printer, small shop	....	B	B		B	
282.	Professor, university	5	A		B	B	
284.	Radio announcer	....	B		B	B	
295.	Reporter	6	A		A	B	
296.	Research leader	....	A	B		B	
299.	Retail dealer, automobile	22	B		B	B	
304.	Retail dealer, buyer	45				B	
310.	Retail dealer, department store	37	B			B	
311.	Retail dealer, drug	32	B			B	
312.	Retail dealer, drygoods	45				B	
317.	Retail dealer, furniture	....				B	
318.	Retail dealer, furrier	....	B			B	
319.	Retail dealer, garage	....		B		B	

Typical Workers on Jobs Requiring A, B, and C Levels of Clerical Ability:

A: Bank Teller
(Occupation No. 26)

B:
Employment
Manager
(Occupation
No. 120)

C: File Clerk
(Occupation
No. 67)

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below				
			Ac.	Me.	So.	Cl.	Mu. Ar.
320.	Retail dealer, general store..	54				B	
321.	Retail dealer, grocer.....	45				B	
324.	Retail dealer, hardware.....	32	B			B	
327.	Retail dealer, lumber.....	54				B	
330.	Retail dealer, oil.....	45				B	
341.	Salesman, stocks	24	B		A	B	
342.	Salesman, technical	....	A	B	A	B	
343.	Salesman, traveling, retail....	24	B		A	B	
344.	Salesman, traveling, wholesale	24	B		A	B	
346.	Scientist, applied	4	A	B		B	
352.	Sheriff, county	....			A	B	
360.	Social worker, routine.....	6	A		A	B	
364.	Station agent	54				B	
368.	Stenographer	37	B			B	
369.	Stock clerk	57				B	
394.	Telegraph operator	....	B			B	
401.	Train dispatcher	32	B			B	
403.	Typist, from copy.....	57				B	
416.	Writer, great	6	A		A	B	
418.	Y.M.C.A. official	25	B		B	B	

Jobs Requiring "A" Musical Ability

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
16.	Arranger, music, symphony	....	A			B	A	
60.	Choir director	....	B		B		A	
75.	Composer, classical	14	A				A	
77.	Concert artist	....	A				A	
82.	Conductor, symphony	9	A		B		A	
250.	Operatic director	....	A		B		A	B
252.	Organist, large church	....	B				A	
387.	Teacher, music, college, practical	9	A		B		A	
388.	Teacher, music, college, theory	14	A				A	
392.	Teacher, music, private	....	B		B		A	

Jobs Requiring "B" Musical Ability

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
2.	Actor, average	39	B				B	
4.	Actor, vaudeville	56					B	
14.	Arranger, music, general	27	B			B	B	
15.	Arranger, music, popular	27	B			B	B	
61.	Choir singer	....					B	
74.	Composer, popular	....	B				B	
80.	Conductor, concert band	26	B		B		B	
81.	Conductor, popular	....			B		B	
87.	Dancer	....	B				B	B
213.	Master ceremonies	....	B		B		B	
234.	Music critic	....	A		B		B	
235.	Music publisher	....	A		B	B	B	
236.	Music entertainer	56					B	

Typical Workers on Jobs Requiring A, B, and C Levels of Musical Ability:

A: Symphony Conductor (Occupation No. 82)

B: Professional Musician (Occupation No. 280)

C: Radio Announcer (Occupation No. 284)

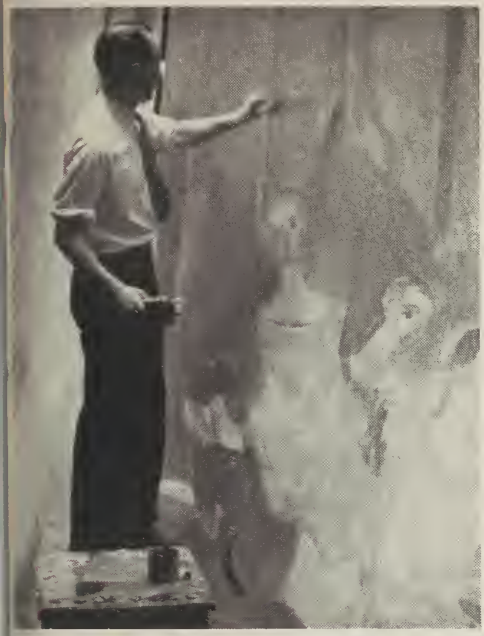
Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	Sc.	Cl.	Mu.	Ar.
253.	Organist, large theatre	....	B				B	
280.	Professional musician, dance band	....					B	
281.	Professional musician, concert band	....		B			B	
285.	Radio artist	39	B				B	
358.	Singer, musical production	56					B	
386.	Teacher, music, band	....	B	B	B		B	
389.	Teacher, music, grades	26	B		B		B	
390.	Teacher, music, high school	....	A		B		B	
391.	Teacher, music, instructor	....	B		B		B	

Jobs Requiring "A" Artistic Ability

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
13.	Architect	....	A	A				A
101.	Designer, stage	....	A	A				A
121.	Engineer, architectural	....	A	A	B	B		A
258.	Painter, murals	....	B					A
272.	Portrait painter	....	A	B	B			A
347.	Sculptor, great	....	A	A				A
380.	Teacher, art, college	....	A	B	B			A

Jobs Requiring "B" Artistic Ability

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
6.	Advertising artist	....	B					B
46.	Buyer, department store	....	B		B	B		B
51.	Cartoonist	....	B		B			B
53.	Caterer	....	B		B			B
87.	Dancer	....	B				B	B
89.	Decorator	33	B					B
93.	Designer, automobile	19	B	A				B
94.	Designer, jewelry	19	B	A				B
95.	Designer, furniture	19	B	A				B
96.	Designer, millinery	33	B					B
97.	Designer, clothing, high grade women's	....	B	B				B
99.	Designer, textiles	21	B	B				B
100.	Designer, clothing, ready-made, men and women	21	B	B				B
102.	Designer, tapestries	21	B	B				B
103.	Designer, wall paper	21	B	B				B



Typical Workers on Jobs Requiring A, B, and C Levels of Artistic Ability:

A: Painter, Murals
(Occupation No. 258)

B: Interior Decorator
(Occupation
No. 175)

C: Florist
(Occupation
No. 313)

Jobs Requiring "B" Artistic Ability

Occupation Number	Name of Occupation	Pattern Number	Classified also on lists of jobs requiring unusual abilities as listed below					
			Ac.	Me.	So.	Cl.	Mu.	Ar.
167.	Illustrator, books	33	B					B
168.	Illustrator, cards	....						B
175.	Interior decorator	....	B	B	B			B
189.	Landscape architect	23	B		B			B
250.	Operatic director	....	A		B		A	B
378.	Teacher, art, grades	23	B		B			B
379.	Teacher, art, high school	....	A	B	B			B

Section IV

Classification of Occupations by Similarity of Ability Patterns

In this section, the occupations from the **Minnesota Occupational Rating Scales** are arranged so that those requiring the same ability patterns are brought together. The arrangement is based upon amounts or levels of academic ability with the "A" level first, followed by "B," "C," and "D." All patterns which fit two or more occupations are listed. The remaining patterns, of course, are unique and are already listed in Section II.

Since there are six abilities, each estimated in a four-step scale (A, B, C, D), the total number of possible patterns is 360. The number of patterns for the 430 occupations was found to be 155 of which 85 were unique and 70 included two or more occupations. We are listing here the 70 patterns covering two or more occupations.

The "A" and "B" patterns are numerous although only a few occupations fall into each group. The "C" and "D" patterns, on the contrary, are less numerous, but many occupations fall into each group and it is in these areas that the vast majority of the working population is found. Whether we like it or not, our secondary schools, to be effective, must direct their programs toward the preparation of a majority of their students for economic competition at the "C" and "D" levels.

The headings found at the top of each page are as follows, from left to right:

1. **Pattern Number.** This number identifies the pattern, 70 of which are listed.

2. **Number of Occupations in Each Pattern.** The number of related occupations included in each pattern is given.

3. **Pattern.** The letters A, B, C, or D indicating the amount of ability for each of the six abilities are given.

4. **Occupation Number.** This is the number which identifies the occupations in Section II where they are listed alphabetically.

5. **Occupation.** The name of the job. A more complete description is found in Section II.

The purpose of this pattern classification is to present various occupational groupings which require the same pattern of abilities. If one were guided by occupational names alone those grouped under a given pattern would appear unrelated. One should avoid any inference that **duties** performed in doing the jobs are similar. Also one should avoid any inference that the vocational **interests** are the same. One must interpret the patterns to mean that the estimated underlying **abilities** for these occupations are similar and that if interests and motivation permitted and opportunities were present, the individual having a given pattern could have been equally successful in any of the occupations in the group. This is the real meaning of "occupational ability families."

This pattern classification is useful in counseling individuals because it forces consideration of occupational alternatives. This is especially necessary when a given occupational choice is blocked because of a lack of local training opportunities, a lack of appropriate interests, or other factors. A partial answer is given to the question, "If this occupational outlet is impossible, or impractical, or inadvisable, what else might I do with the same pattern of abilities?"

One cannot study the 70 patterns included in this section and the 85 unique patterns not listed here without being forced to realize the complexity of human ability patterns in relation to occupational outlets. This enormously complicates the problem of vocational education, vocational orientation, and vocational guidance.

At the same time one must recognize that this type of approach in reality is a process of simplification because by it we are able to bring large numbers of specific occupations within the limits of a relatively small number of pattern classifications. Even so, it is obvious that existing vocational education facilities do not provide for considerable numbers of these ability patterns. The vocational counselor also is likely to overlook many occupational alternatives because of a preoccupation with the names of specific occupations in thinking about occupational outlets. In addition those who teach occupations courses some-

times tend merely to scratch the surface when they deal with specific occupations or with groups of occupations by industry or field rather than in terms of the human abilities required.

There is every reason to believe that the approach made possible by the occupational classifications set forth in this section will do much to overcome the difficulties considered above. This is true because we have systematically classified our occupations in the same set of terms that we use in diagnosing the abilities of those being counseled.

HUMAN ABILITY PATTERNS AND RELATED JOB LABELS

Patterns of "A" Academic Ability

Pattern Number	Number of Occupations	Pattern Ac.	Me.	So.	Cl.	Mu.	Ar.	Occupation Number	Name of Occupation
1	3	A	B	B	B	D	D	114.	Editor, small paper
								243.	Officer, ship
								247.	Official or superintendent railroad
2	2	A	A	B	C	D	D	92.	Dentist, great, in city
								374.	Surgeon, great
3	3	A	B	B	C	D	D	240.	Oculist, treats diseases of eye
								255.	Osteopath, college graduation
								264.	Physician, surgeon, 6-8 years' training
4	2	A	B	C	B	D	D	18.	Astronomer, professor of astronomy
								346.	Scientist, applied, bacteriologist, psychologist, etc.
5	5	A	C	B	B	D	D	188.	Land owner, operator, large scale

Pattern Number	Number of Occupations	Pattern Ac.	Me.	So.	Cl.	Mu.	Ar.	Occupation Number	Name of Occupation
5	5	A	C	B	B	D	D	210.	Manager or superintendent, average size factory
		(Continued)						242.	Officer, army
								245.	Official manufacturing, head of large company
								282.	Professor, university, M.A. or Ph. D.
6	5	A	D	A	B	D	D	43.	Broker, promoter, stocks and bonds
								194.	Lawyer, eminent
								295.	Reporter on newspaper
								360.	Social worker, case history, special training
								416.	Writer, author, great
7	3	A	D	B	A	D	D	24.	Banker and bank executive head
								25.	Banker, small town
								348.	Secretary to eminent character
8	13	A	D	B	B	D	D	40.	Broker, loans, finance company
								115.	Editor, publisher, large publisher
								116.	Educational administrator, superintendent
								120.	Employment, personnel, college graduate
								164.	Hotel manager, large city hotel
								181.	Journalist, feature writer

Pattern Number	Number of Occupations	Pattern Ac.	Me.	So.	Cl.	Mu.	Ar.	Occupation Number	Name of Occupation
8	13	A	D	B	B	D	D	182.	Judge, municipal, district, federal
		(Continued)						193.	Lawyer, average, civil, criminal
								219.	Merchant, million dollar business or over
								220.	Merchant, great, wholesale
								246.	Official, insurance company
								248.	Official or inspector, cabinet official, diplomatic
								277.	President college
9	2	A	D	B	C	A	D	82.	Conductor, symphony orchestra
								387.	Teacher, music in college
10	2	A	A	D	C	D	C	98.	Designer, machinery and motors
								126.	Engineer, mechanical
11	4	A	A	D	C	D	D	128.	Engineer, mining
								130.	Engineer, technical in industry
								176.	Inventive genius (Edison type)
								177	Inventor, commercial appliances
12	2	A	B	D	C	D	D	57.	Chemist, industrial
								154.	Geologist
13	3	A	D	B	C	D	D	5.	Advertising expert, writer
								384.	Teacher, high school, college graduate
								415.	Writer, author, magazine articles

Pattern Number	Number of Occupations	Pattern						Occupation Number	Name of Occupation
		Ac.	Me.	So.	Cl.	Mu.	Ar.		
14	2	A	D	C	C	A	D	75.	Composer, classical and concert music
								388.	Teacher of music in college, theory
15	2	A	D	D	A	D	D	1.	Accountant, auditor, college graduate
								365.	Statistician, research statistician, college graduate or training
16	2	A	C	C	C	D	D	110.	Druggist, pharmacist, college graduate
								238.	Nurse, registered, college graduate

Patterns of "B" Academic Ability

Pattern Number	Number of Occupations	Pattern						Occupation Number	Name of Occupation
		Ac.	Me.	So.	Cl.	Mu.	Ar.		
17	2	B	B	B	B	D	D	145.	Foreman, large factory
								211.	Manufacturer, employs 10-50 men
18	2	B	A	B	C	D	D	91.	Dentist, 2-5 years' experience, small town
								144.	Foreman, overseer in small factory or shop
19	3	B	A	D	C	D	B	93.	Designer, automobile
								94.	Designer, fine jewelry
								95.	Designer, furniture, house furnishings
20	2	B	B	B	C	D	D	143.	Foreman, construction
								146.	Foreman, transportation
21	4	B	B	D	D	D	B	99.	Designer, printed textiles
								100.	Designer, ready-made clothing
								102.	Designer, tapestry, rugs
								103.	Designer, wall paper
22	3	B	C	B	B	D	D	47.	Buyer, hardware store
								132.	Executive, minor, business or manufacturing
								299.	Retail dealer, auto dealer, average size business
23	2	B	C	B	C	D	B	189.	Landscape architect
								378.	Teacher art, grade school
24	4	B	D	A	B	D	D	174.	Insurance agent, sells policies
								341.	Salesman, stocks and bonds
								343.	Salesman, travels, retailer
								344.	Salesman, travels, wholesaler

Pattern Number	Number of Occupations	Pattern						Occupation Number	Name of Occupation
		Ac.	Me.	So.	Cl.	Mu.	Ar.		
25	5	B	D	B	B	D	D	4a.	Adjustor, insurance claims
								42.	Broker and commission man
								85a.	Correspondence clerk, complaints
								85b.	Credit man, credit department
								418.	Y.M.C.A. official
26	2	B	D	B	C	B	D	80.	Conductor, high class band
								389.	Teacher, music in grade school
27	2	B	D	D	B	B	D	14.	Arranger of music, general
								15.	Arranger of music, dance orchestra
28	2	B	A	D	C	D	D	125.	Engineer, locomotive, freight or passenger
								218.	Mechanic, master
29	2	B	A	D	D	D	D	22.	Aviator, flyer, technical knowledge
								127.	Engineer, marine, large ships
30	2	B	B	D	C	D	D	218a.	Medical technologist
								375.	Surveyor, transit man
31	6	B	C	B	C	D	D	59.	Chiropractor, not college graduate, special training
								104.	Detective, detective bureau
								192.	Laundry owner, average laundry
								244.	Officer or inspector, city or county

Pattern Number	Number of Occupations	Pattern Ac.	Me.	So.	Cl.	Mu.	Ar.	Occupation Number	Name of Occupation
31	6	B	C	B	C	D	D	381.	Teacher, athletic and dance, special training
		(Continued)						405.	Undertaker, funeral director
32	3	B	C	C	B	D	D	311.	Retail dealer, drugs
								324.	Retail dealer, hardware
								401.	Train dispatcher
33	3	B	C	C	D	D	B	89.	Decorator, draper, window dresser
								96.	Designer, high grade millinery
								167.	Illustrator, books and magazines
34	2	B	D	A	C	D	D	270.	Politician, party worker, political office
								287.	Real estate agent, commission
35	8	B	D	B	C	D	D	41.	Broker, pawn, owns and operates own shop
								120a.	Employment interviewer
								163.	Hotel keeper, average hotel
								175a.	Interviewer, census, market research
								185.	Keeper, charitable institutions
								279.	Probation and truant officer
								383.	Teacher in grammar school, normal school graduate
								393.	Teacher, primary, no college training
36	2	B	D	C	A	D	D	26.	Bank teller, routine work

Pattern Number	Number of Occupations	Pattern						Occupation Number	Name of Occupation
		Ac.	Me.	So.	Cl.	Mu.	Ar.		
								197.	Librarian, small institution
37	5	B	D	C	B	D	D	7.	Agent, express and freight
								12.	Appraiser, taxes, insurance, etc.
								79.	Conductor, railroad
								310.	Retail dealer, department store
								368.	Stenographer, shorthand, typing
38	4	B	D	D	B	D	D	36.	Bookkeeper, high school, business college training
								68.	Clerk, railroad mail clerk
								69.	Clerk, shipping in wholesale company
								73.	Compiler, census, bibliographies
39	2	B	D	C	D	B	D	2.	Actor, average
								285.	Radio artist, plays, sings, national broadcast
40	2	B	C	C	C	D	D	148.	Forest ranger
								239.	Nurseryman, owner, manager
41	3	B	D	C	C	D	C	298.	Retail dealer, art supplies, pictures
								308.	Retail dealer, costumer, clothing
								322.	Retail dealer, haberdasher
42	3	B	D	C	C	D	D	184.	Justice of peace, small town
								301.	Retail dealer, books, stationery
								413.	Wholesale dealer, fairly small

Patterns of "C" Academic Ability Having Two or More Occupational Labels

Pattern Number	Number of Occupations	Pattern						Occupation Number	Name of Occupation
		Ac.	Me.	So.	Cl.	Mu.	Ar.		
43	6	C	B	D	D	D	C	48.	Cabinet maker, skilled
								131.	Engraver, jewelry, silverware
								155.	Glass blower, bottles, etc.
								195.	Leather worker, skilled
								371.	Stone mason, skilled
								414.	Wood carver, highly skilled
44	21	C	B	D	D	D	D	10.	Annealer, temperer, factory
								21.	Auto racer, races, tests cars
								35.	Bookbinder, skilled operator
								117.	Electrician, general electric worker
								129.	Engineer, stationary, special training
								157.	Gunsmith, makes and repairs guns
								159.	Harness maker, general leather work
								201.	Lineman
								208.	Machinist, large factory, specialized
								215.	Mechanic, average, garage
								226.	Millwright, machine mechanic
								232.	Moving picture operator, projectionist
								266.	Plasterer, knowledge of materials

Pattern Number	Number of Occupations	Pattern Ac.	Me.	So.	Cl.	Mu.	Ar.	Occupation Number	Name of Occupation
44	21	C	B	D	D	D	D	267.	Plumber and steamfitter, average
		(Continued)						290.	Repairman, general, woodworking tools
								291.	Repairman, mechanical
								354.	Shop mechanic, railroad
								367.	Steeple jack, paints and repairs
								398.	Tinsmith, manufactures and repairs
								408.	Vulcanizer
								412.	Wheelwright, small shop
45	8	C	D	C	B	D	D	9.	Agent, ticket agent, depot
								52.	Clerk, cashier, make change, retail store
								66.	Clerk, experienced, receiving or sending
								209a.	Mail carrier, city route
								304.	Retail dealer, buyer, shipper of livestock
								312.	Retail dealer, drygoods
								321.	Retail dealer, grocer
								330.	Retail dealer, oil, paint
46	8	C	C	C	C	D	D	28.	Barber, owner of shop
								112.	Dry cleaner, owner or manager
								135.	Farmer, owner, manager, moderate size
								238a.	Nurse, practical
								303.	Retail dealer, butcher
								309.	Retail dealer, dairyman

Pattern Number	Number of Occupations	Pattern						Occupation Number	Name of Occupation
		Ac.	Me.	So.	Cl.	Mu.	Ar.		
46	8	C	C	C	C	D	D	323.	Retail dealer, harness, leather
		(Continued)						334.	Retail dealer, tailor
47	11	C	C	D	D	D	D	50.	Carpenter, wood construction
								170.	Inspector, lumber
								200.	Lighthouse keeper
								216.	Mechanic, average, in foundry
								217.	Mechanic, general, handyman
								231.	Motorman, electric railroad
								256.	Painter, general, paints houses
								294.	Repairman, tires
								335.	Riveter, steel construction
								377.	Tailor, not owner
								406.	Upholsterer, renovator of furniture
48	18	C	D	C	C	D	D	72.	Collector, employed to collect
								83.	Conductor, street car
								209.	Mail carrier, rural, drives car
								237.	Notary public
								268.	Policeman, average patrolman
								297.	Restaurant keeper, small cafe
								300.	Retail dealer, baker
								302.	Retail dealer, boots and shoes

Pattern Number	Number of Occupations	Pattern Ac.	Me.	So.	Cl.	Mu.	Ar.	Occupation Number	Name of Occupation
48	18	C	D	C	C	D	D	306.	Retail dealer, cigars, tobacco
		(Continued)						307.	Retail dealer, coal and wood
								314.	Retail dealer, flour and feed
								315.	Retail dealer, fishmonger
								316.	Retail dealer, fruit
								325.	Retail dealer, ice
								333.	Retail dealer, produce
								338.	Sales clerk, retail counter sales
								342a.	Salesman, telephone
								395.	Telephone operator, special training
49	4	C	A	D	C	D	D	260.	Pattern maker, metal
								261.	Pattern maker, wood
								293.	Repairman, radio
								399.	Toolmaker, factory, highly skilled
50	2	C	A	D	D	D	C	118.	Electrotyper, prepare wood-cuts
								203.	Lithographer
51	2	C	A	D	D	D	D	180.	Jeweler, maker of watches
								214.	Mechanic, aeroplane
52	3	C	B	D	C	D	D	76.	Compositor, typesetter
								223.	Miller, flour mill
								289.	Repairman, electric
53	3	C	B	D	D	C	D	171.	Inspector and tester, musical instruments
								265.	Piano or organ tuner

Pattern Number	Number of Occupations	Pattern Ac.	Me.	So.	Cl.	Mu.	Ar.	Occupation Number	Name of Occupation
53	3	C	B	D	D	C	D	292.	Repairman, repairs musical instruments
		(Continued)							
54	3	C	C	C	B	D	D	320.	Retail dealer, general store, country
								327.	Retail dealer, lumber
								364.	Station agent, small town
55	4	C	D	B	C	D	D	85c.	Credit clerk, applications for credit
								141.	Floorwalker, foreman in store
								288.	Religious and welfare workers, untrained
								410.	Waiter, head, hotel, restaurant
56	3	C	D	C	D	B	D	4.	Actor, vaudeville
								236.	Musical entertainer, vaudeville
								358.	Singer in musical production
57	3	C	D	D	B	D	D	70.	Clerk, stock, checks stock
								369.	Stock clerk, factory, large department store
								403.	Typist, no shorthand, copies
58	2	C	C	C	C	D	C	108.	Dressmaker, at home or small shop
								224.	Milliner, makes hats in small shop
59	3	C	C	C	D	D	D	17.	Athlete, professional, chief income
								58.	Chiropodist

Pattern Number	Number of Occupations	Pattern						Occupation Number	Name of Occupation
		Ac.	Me.	So.	Cl.	Mu.	Ar.		
59	3	C	C	C	D	D	D	404.	Undertaker, embalmer, 6 months to one year training
		(Continued)							
60	3	C	C	D	C	D	C	228.	Monument maker, carves stone
								355.	Show-card writer
								357.	Sign painter, large outdoor signs
61	2	C	C	D	C	D	D	169.	Inspector, sampler, etc.
								173.	Inspector, street railway
62	3	C	C	D	D	D	C	56.	Chef, first class hotel
								142.	Floriculturist, grows flowering plants
								274.	Potter, makes jugs, jars, etc.
63	3	C	D	C	C	D	C	64.	Clerk in art store
								305.	Retail dealer, candy, confectionery
								313.	Retail dealer, florist

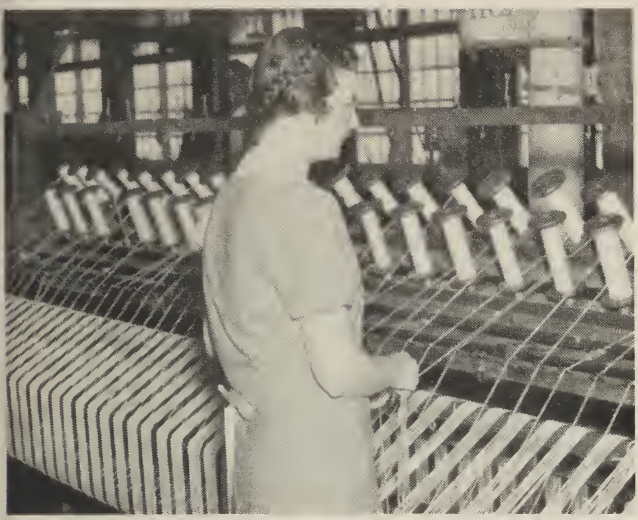
Patterns of "D" Academic Ability

Pattern Number	Number of Occupations	Pattern						Occupation Number	Name of Occupation
		Ac.	Me.	So.	Cl.	Mu.	Ar.		
64	10	D	B	D	D	D	D	38.	Brakeman, freight or passenger
								39.	Bricklayer, skilled labor
								136.	Finisher of metal
								137.	Fireman in city
								138.	Fireman, railroad
								249.	Oil well driller
								353.	Ship rigger
								373.	Structural steel worker
								376.	Switchman, railroad yard
								402.	Truck driver, heavy work
65	34	D	C	D	D	D	D	20.	Auto assembler, in auto factory
								31.	Blacksmith, general work, rural
								33.	Boilermaker, heavy work
								45.	Butcher, not shop owner
								49.	Canvas worker, tent and awning factory
								62.	Circus roustabout
								71.	Cobbler, shoemaker, repair man
								78.	Concrete worker, construction
								84.	Cook, restaurant or small hotel
								85.	Cooper, makes barrels in factory
								134.	Farm tenant, small tract of land

Pattern Number	Number of Occupations	Pattern Ac.	Me.	So.	Cl.	Mu.	Ar.	Occupation Number	Name of Occupation
65	34	D	C	D	D	D	D	139.	Fireman, stationary engineer
		(Continued)						149.	Foundry worker, molder, etc.
								151.	Gardener, private home or estate
								162.	Hostler, cares for horses
								179.	Janitor, sexton, church office building
								191.	Laundry worker, handyman, semi-skilled
								222.	Miller, feed mill
								227.	Miner, digger and shoveler
								229.	Motor-cyclist, rapid delivery service
								230.	Motorman, street railway
								233.	Munition worker, average
								241.	Odd job man
								257.	Painter, glazier or varnisher in factory
								259.	Paper hanger
								336.	Roofer and slater
								345.	Sawmill worker
								351.	Sheet metal worker, routine factory
								359.	Smelter worker
								363.	Stage hand, large theatre
								370.	Stone cutter, quarry worker
								400.	Track layer, heavy work
								411.	Waterworks man, unskilled
								417.	Yardman, railroad

Pattern Number	Number of Occupations	Pattern						Occupation Number	Name of Occupation
		Ac.	Me.	So.	Cl.	Mu.	Ar.		
66	11	D	D	C	D	D	D	30.	Bell boy, hotel
								37.	Boot black, shoeshining parlor
								119.	Elevator operator
								161.	Hospital attendant
								165.	Housekeeper, private home, cleans, etc.
								199.	Life saver, municipal beach
								271.	Porter, personal service on train
								332.	Retail dealer, popcorn stand
								350.	Servant, personal and domestic
								397.	Theatre usher
								409.	Waiter, small restaurant or cafe
67	3	D	C	C	D	D	D	27.	Barber, not owner, charge of chair
								90.	Delivery man, groceries, drives car
								158.	Hairdresser, manicurist, in shop
68	5	D	D	C	C	D	D	29.	Bartender, hotel, restaurant, bar
								166.	Huckster, peddler, fruit, vegetables
								196.	Letter carrier
								221.	Messenger boy, telegraph, office, store
								329.	Retail dealer, news

Typical Workers on Jobs Requiring No Higher Than D Level in Any Ability:



Textile Worker
(Occupation No. 396)

Farm Laborer
(Occupation No. 133)

Lumberman
(Occupation No. 207)

Pattern Number	Number of Occupations	Pattern						Occupation Number	Name of Occupation
		Ac.	Me.	So.	Cl.	Mu.	Ar.		
69	2	D	D	D	C	D	D	107.	Drayman
								275.	Poultry dealer, small poultry farm
70	30	D	D	D	D	D	D	23.	Baker, not owner, work in bakery
								32.	Boatman, canal hand, lock keeper
								34.	Boiler washer, railroad
								54.	Chamber maid, hotel or boarding house
								63.	Cleaner, scrub woman
								86.	Dairy hand, under supervision
								88.	Day laborer
								105.	Ditcher, drains farms
								109.	Dressmaker's helper, routine
								111.	Dry cleaner, routine
								113.	Dyer, routine in factory
								133.	Farm laborer, unskilled
								140.	Fisherman
								150.	Garbage collector, in city
								156.	Guards, watchman, doorkeeper
								160.	Hobo, vagrant
								178.	Irrigator and ditch tender
								183.	Junkman, collector of junk
								186.	Laborer, factory
								187.	Laborer, construction
								190.	Lathe operator, routine in factory

Pattern Number	Number of Occupations	Pattern						Occupation Number	Name of Occupation
		Ac.	Me.	So.	Cl.	Mu.	Ar.		
70	30	D	D	D	D	D	D	205.	Longshoreman, loads and unloads cargoes
		(Continued)						207.	Lumberman, laborer
								225.	Milliner's helper, supervised
								251.	Operative, semi-skilled in factory
								337.	Sailor, deck hand
								349.	Section hand, railroad
								362.	Soldier, private in standing army
								372.	Street sweeper, in city
								396.	Textile worker, routine factory work

Section V

Use of the Minnesota Rating Scales and Counseling Profile

The **Counseling Profile** is a device which facilitates use of the **Occupational Rating Scales** in the counseling situation. Although operation of the **Profile** is simple, the following steps should be followed in its use.

1. Set all disks with the white **no information** segments directly beneath the transparent window.

2. Begin with the ability represented by the outside disk. This is necessary because of the tendency of the smaller disks to turn with the larger. Disks are easily turned to the desired positions.

3. Place your estimate of the amount of ability possessed by the individual on the outside disk under the guide-line in the center of the transparent window. This placement indicates that the best estimate probably lies within the limits of the window.

4. Proceed in the same manner for each of the remaining five "ability disks."

5. As each disk is set, hold in place with the left thumb those already set to prevent them from moving out of position.

6. Establish judgment areas for the six ability disks. The six ability disks are placed one upon the other beginning with the outside disk. Reading from the outside in, the disks are as follows:

Academic Ability:

A (green portion) 91-100 percentiles of the general population
B (light green) 76- 90 percentiles of the general population
C (amber-yellow) 26- 75 percentiles of the general population
D (red) 1- 25 percentiles of the general population

Judgments are formed for this disk from several kinds of data including observations of behavior, grades in school, and tests of intelligence and academic achievement.

Mechanical Ability:

A (green portion) 91-100 percentiles of the general population
B (light green) 76- 90 percentiles of the general population
C (amber-yellow) 26- 75 percentiles of the general population
D (red) 1- 25 percentiles of the general population

Judgments formed for this disk are derived from work experiences, shop grades, hobbies, and mechanical ability tests.

Social Intelligence:

A (green portion) 91-100 percentiles of the general population
B (light green) 76- 90 percentiles of the general population
C (amber-yellow) 26- 75 percentiles of the general population
D (red) 1- 25 percentiles of the general population

Judgments are formed in terms of social behavior in school and community, anecdotal records, ratings, and personality and interest tests.

Clerical Ability:

A (green portion) 91-100 percentiles of the general population
B (light green) 76- 90 percentiles of the general population
C (amber-yellow) 26- 75 percentiles of the general population
D (red) 1- 25 percentiles of the general population

Judgments are based on school grades, performance on various office machines, ability to deal with clerical detail, and clerical aptitude tests.

Musical Talent:

A (green portion) 97-100 percentiles of the general population
B (light green) 91- 96 percentiles of the general population
C (amber-yellow) 26- 90 percentiles of the general population
D (red) 1- 25 percentiles of the general population

Judgments are arrived at by considering ratings by competent judges of musical talent, grades in music courses, musical performances, and standardized tests of musical talent and achievement.

Rating An Individual's Abilities

Artistic Ability:

A (green portion) 97-100 percentiles of the general population
B (light green) 91- 96 percentiles of the general population
C (amber-yellow) 26- 90 percentiles of the general population
D (red) 1- 25 percentiles of the general population

Judgments are made in terms of ratings by competent judges of art products, school grades in art courses, and tests of art talent and art judgment.

There are no simple directions which can be given and followed blindly by the counselor in arriving at the letter ratings for each of the abilities of a given individual. This is a complex problem of individual diagnosis. Aids to diagnosis are suggested in the preceding paragraphs. A wealth of suggestions for arriving at diagnoses of each of the six abilities will be found in the following three books:

Bingham, W. V., **Aptitudes and Aptitude Testing.** New York: Harper & Brothers, 1937.

Paterson, D. G., Schneidler, G. G., and Williamson, E. G., **Student Guidance Techniques.** New York: McGraw-Hill Book Company, 1938.

Ruch, Giles M., and Segal, David, **Minimum Essentials of the Individual Inventory in Guidance.** Vocational Division Bulletin No. 202, Occupational Information and Guidance Series No. 2, U. S. Office of Education. Washington, D. C.: U. S. Government Printing Office, 1940.

The reader will notice that the percentiles corresponding to "A," "B," and "C" ratings for musical and artistic ability differ from those for the other abilities. The reason for this discrepancy lies in the relatively small number of openings which offer vocational outlets in these two areas. Because there are far fewer opportunities, the individual who would enter musical or artistic occupations must possess relatively greater aptitudes and abilities if he is to compete successfully.

7. Set disk 7, **Occupational Choice,** to agree with the **claims** of the counselee. Segments of this disk bear names similar to the ability disks: **verbal-linguistic, scientific, mechanical, social**

service, social-persuasive, clerical, musical, and **artistic.** Counselees most frequently make vocational choices in terms of job names. The counselor must, therefore, interpret a specific job name in terms of implied broad ability and interest areas. The occupational choice disk is then turned to the appropriate area.

The occupational choices of many students are likely to be inappropriate. The work of Fryer, Bingham, and others indicates that little reliance can be placed upon occupational choices alone. Errors underlying these choices are too well known to warrant extended discussion here. Limited knowledge of the various occupations and lack of an adequate understanding of the various relationships considered important by the vocational psychologist all too frequently characterize vocational hopes. Occupational labels are "red herrings" which lure individuals away from the real issues involved in appropriate educational-vocational choices. No counselor, however, would discount entirely the counselee's choice. The problem is to determine the extent to which the counselee's choice harmonizes with the ability and interest requirements.

8. Segments of disk 8, **measured interests,** are labeled in the same way as are those disk segments for occupational choices. Although the names for these interest segments do not agree precisely with existing interest inventories, nevertheless, these eight broad areas do correspond to groupings which can be applied to specific interests as measured. The two most frequently used interest inventories are the Kuder[1] and the Strong.[2] The Kuder and Strong interest areas are compared below with the **Counseling Profile** terminology.

Kuder	Strong	Counseling Profile
Scientific	Engineering and scientific	Scientific
Mechanical	Technological and skilled trades	Mechanical
Computational Clerical	Office occupations	Clerical and detail

[1]**Kuder Preference Record,** Science Research Associates, 1700 Prairie Avenue, Chicago, Illinois. (Revised, 1941.)

[2]**Strong Vocational Interest Blank,** Stanford University Press, Stanford, California.

Kuder	Strong	Counseling Profile
Musical	Musical	Musical
Artistic	Artistic	Artistic
Literary	Verbal occupations	Verbal-linguistic (academic)
Social service	Social service	Social service
Persuasive	Business contact	Social-persuasive

The results of measured interests for the individual are set up on disk 8. It will be noted that this disk is divided into the interest areas described above plus a **no information** segment. Within each interest area will be found three colored divisions. The meaning of these is as follows: **green** for a measured interest characterizing the majority of workers in an occupational area; **amber** for a measured interest characterizing only a minority of workers in this area; and **red** for the absence of a measured interest.

The problem is simple if the individual has significant measured interests. In this case the measured interest appearing under the transparent window of the **Profile**, green or amber, is then compared with the occupational choice appearing on disk 7 and also with the ability pattern on disks 1 through 6. If there is agreement the counselee's choice is confirmed and this choice is then brought into line with the most appropriate occupations having the same ability pattern. (See Section IV.)

The problem, however, is likely to be complicated by a failure of the individual's choice to agree with his measured interests, the ability pattern, or both. In this situation it is a counseling problem to bring about maximum agreement between the individual's ability pattern, his measured interest pattern, and a revised occupational choice. In this process the counselor will be aided by the occupational alternatives immediately suggested by moving from the individual's ability pattern to the appropriate list of jobs having this same pattern. (See Section IV.)

Since a memorandum of the **Profile** probably will be desired for later reference, the pattern of abilities, final occupational choice and measured interests can be copied on the **Individual Counseling Record** form and placed in the counselee's case history folder.

Gainfully Occupied Persons in the U. S. by Major Occupational Groups: 1870 to 1930*

Group and Occupation	1870	1880	1890	1900	1910	1920	1930
	Number	Number	Number	Number	Number	Number	Number
TOTAL U. S. POPULATION†	39,818,449	50,155,783	62,947,714	75,994,575	91,972,266	105,710,620	122,775,046
TOTAL GAINFULLY OCCUPIED	12,505,923	17,392,099	22,735,661	29,073,233	38,167,336	41,614,248	48,829,920
(Per Cent of Total Population)	31.4%	34.7%	36.1%	38.3%	41.5%	39.4%	39.8%
AGRICULTURE	5,919,993	7,663,043	8,451,097	10,248,935	12,388,309	10,665,812	10,471,998
(Per Cent of All Workers)	47.3%	44.1%	37.2%	35.3%	32.5%	25.6%	21.4%
Agricultural Laborers (a)	2,885,996	3,323,876	3,004,061	4,410,877	6,205,633	4,186,128	4,392,764
Dairy Farmers	3,550	8,948	17,895	10,875	62,902	121,292	165,877
Farmers and Planters	2,981,320	4,229,051	5,281,557	5,674,875	5,952,318	6,143,059	5,671,693
Gardeners and Florists	33,632	56,032	72,601	61,788	97,035	115,871	126,300
Stock Raisers	15,359	44,075	70,729	84,988	56,125	82,453	96,463
Other Agricultural Workers	136	1,061	4,254	5,532	14,296	17,009	18,901
FORESTRY AND FISHING	53,196	84,734	159,725	177,035	241,806	270,214	250,469
(Per Cent of All Workers)	0.4%	0.5%	0.7%	0.6%	0.6%	0.6%	0.5%
Fishermen and Oystermen	27,106	41,352	60,162	68,940	68,275	52,836	73,280
Foresters and Rangers	.....	.....	.....	.....	4,332	3,653	8,057
Lumbermen	26,090	43,382	99,563	108,095	161,268	205,315	162,233
Timber Camp Owners, Managers	.....	.....	.....	.....	7,931	8,410	6,899
EXTRACTION OF MINERALS	169,499	256,737	396,395	581,417	960,804	1,084,751	980,199
(Per Cent of All Workers)	1.4%	1.5%	1.7%	2.0%	2.5%	2.6%	2.0%
Coal Miners	72,863	126,019	208,545	344,205	613,924	733,936	621,661
Foremen and Inspectors	.....	.....	.....	.....	23,338	36,931	34,286
Oil and Gas Well Workers	3,803	7,340	9,147	18,011	25,562	85,550	105,224
Operators and Officials	.....	.....	.....	.....	25,234	34,325	30,896
Quarry Workers	13,589	15,169	37,656	34,584	80,840	45,162	65,288
Other Miners	79,244	108,209	141,047	184,617	191,906	148,847	122,844
MANUFACTURING AND MECHANICAL	3,463,781	5,267,079	7,061,138	9,054,982	10,514,805	12,457,631	13,620,815
(Per Cent of All Workers)	27.7%	30.3%	31.1%	31.1%	27.6%	29.9%	27.9%
Bakery Workers	27,680	41,309	60,197	79,188	98,469	118,381	168,701
Blacksmiths, Forgemen, Etc.	142,075	172,726	209,581	226,477	242,990	224,082	148,151
Boilermakers, Etc.	6,958	12,771	21,339	33,046	44,761	76,093	50,554
Brick and Stone Masons	89,710	102,473	160,845	160,805	169,402	131,264	170,903
Brick and Tile Workers, Etc.‡	26,070	36,052	60,214	49,933	13,407	9,987	12,884
Carpenters and Apprentices	360,496	390,595	618,242	600,252	823,189	892,184	933,564
Chemical and Allied Workers‡	17,936	36,889	60,291	91,575	72,852	157,758	178,730
Electricians and Apprentices	.....	.....	.....	50,717	122,902(c)	222,526	284,928
Engineers, Firemen, Etc. (b)	34,233	79,628	139,765	233,495	356,302	448,471	475,468
Engravers	4,226	4,577	8,320	11,151	13,967	15,053	19,437

1 Reproduced from American Job Trends. Occupational Monograph No. 23 of the American Job Series. Science Research Associates, 1941.

Group and Occupation	1870	1880	1890	1900	1910	1920	1930
	Number	Number	Number	Number	Number	Number	Number
Envelope, Tag, Etc., Workers	.....	.....	.....	.....	10,032	13,694	17,127
Foremen and Overseers	.....	.....	36,084	55,450	175,997	308,137	338,504
Furnacemen, Puddlers, Etc.	.....	.....	.....	.....	36,251	40,806	35,166
Glass Blowers, Etc.‡	9,518	17,934	34,282	49,998	57,441	53,975	44,121
Grinders, Buffers, Etc.	.....	.....	.....	.....	49,525	59,785	78,600
Jewelers, Etc.	20,287	42,225	45,515	50,232	66,706	81,791	74,756
Laborers	1,032,084	1,859,223	1,913,373	2,629,262	2,518,135	2,956,710	3,213,280
Leather Workers	236,717	268,291	304,087	298,726	323,379	358,090	343,906
Lime and Cement Workers, Etc.‡	.....	.....	.....	.....	8,609	7,633	11,395
Lumber, Furniture Workers	177,839	236,990	345,896	376,860	298,959	296,710	334,217
Machinists, Toolmakers, Etc.	61,519	116,718	204,813	311,267	488,049	934,125	774,701
Manufacturers and Managers	57,405	69,595	153,882	243,009	361,312	433,645	520,657
Metal Factory Workers	17,385	27,962	54,777	83,362	26,911	32,369	33,645
Millers	41,582	53,440	52,841	40,548	27,144	31,384	22,818
Molders, Founders, Etc.	1,543	3,341	8,932	12,473	120,900	123,681	105,158
Painters, Paperhangers, Etc.	89,147	135,332	234,602	299,531	362,932	341,778	557,259
Paper and Pulp Workers	12,469	21,430	27,817	36,328	36,383	54,669	63,629
Paper-Box Factory Workers	6,080	15,762	17,757	21,098	17,917	20,452	14,284
Plasterers, Etc.	23,577	22,083	39,002	35,694	47,682	45,876	85,480
Plumbers and Apprentices	11,143	19,383	61,231	97,785	158,207	214,104	243,751
Potters and Pottery Workers‡	5,060	7,233	14,928	16,140	16,259	17,437	23,247
Printers and Lithographers	40,424	72,726	123,059	159,147	160,179	172,564	231,539
Printing, Publishing Workers	9,104	13,833	23,858	30,278	71,153	78,312	81,799
Rollers and Roll Hands	2,796	7,170	12,319	18,487	18,407	25,061	30,765
Stonecutters, Stoneyard Workers‡	25,831	32,842	61,070	54,460	44,270	27,645	30,851
Textile Workers‡	531,763	841,313	1,242,488	1,507,393	1,908,321	1,751,473	1,746,511
Tin, Enamelware Workers	.....	.....	.....	.....	10,611	19,356	23,290
Tinsmiths, Etc.	30,524	42,818	57,525	70,505	59,833	77,784	85,364
Tobacco Workers	40,271	77,045	111,625	131,452	151,801	145,222	103,715
Other Building Workers	19,264	11,884	22,528	18,445	211,660	127,326	238,556
Other Electrical Workers	.....	.....	.....	.....	33,557	80,790	166,596
Other Factory Operatives	115,732	145,938	233,284	304,043	321,257	592,001	576,878
Other Food Workers	32,038	49,920	76,858	115,617	128,221	181,469	193,767
Other Miscellaneous Workers	103,295	177,628	207,281	464,753	228,564	455,978	732,163
Transportation and Communication	403,274	582,944	1,089,161	1,456,732	2,510,498	3,053,783	3,998,206
(Per Cent of All Workers)	3.2%	3.4%	4.8%	5.0%	6.6%	7.3%	8.2%
Air Transport Workers	.....	.....	.....	.....	.....	1,312	12,383
Communication Workers	8,316	23,166	63,348	89,739	369,249	513,390	663,267
Road, St. Trans. Workers	146,846	223,496	449,292	637,518	578,363	821,308	1,720,302
Steam Railroad Workers	154,027	236,058	462,213	582,150	1,195,948	1,316,216	1,207,806
Street Railroad Workers	5,103	11,687	37,434	68,919	157,671	177,146	149,831

Group and Occupation	1870	1880	1890	1900	1910	1920	1930
	Number	Number	Number	Number	Number	Number	Number
Water Transport Workers	88,982	88,537	76,874	78,406	153,180	179,365	180,111
Other T. and C. Workers	.....	.....	.....	.....	56,087	45,046	64,506
TRADE	573,574	833,717	1,476,022	2,232,771	3,719,797	4,418,751	6,277,574
(Per Cent of All Workers)	4.6%	4.8%	6.5%	7.7%	9.8%	10.6%	12.9%
Agents	20,316	33,989	174,582	241,162	86,532	161,067	245,127
Bankers and Brokers	10,631	19,373	35,968	73,277	105,804	161,613	221,504
Commercial Travelers	7,262	28,158	58,691	92,919	163,620	179,320	223,732
Hucksters and Peddlers	34,337	53,491	59,083	76,649	80,415	50,402	56,610
Insurance Agents and Officials	.....	.....	.....	.....	97,964	134,978	286,235
Merchants	402,001	555,680	796,781	946,405	1,165,662	1,351,447	1,730,437
Owners and Officials	10,023	15,553	39,900	74,072	43,086	61,213	83,468
Real Estate Agents and Officials	.....	.....	.....	.....	125,862	149,135	240,030
Salesmen and Saleswomen	14,203	32,279	264,394	611,139	1,326,908	1,606,117	2,470,994
Undertakers	1,996	5,113	9,891	16,189	20,734	24,469	34,132
Other Persons in Trade	72,805	90,081	36,732	100,959	503,210	538,990	685,305
PUBLIC SERVICE	70,367	107,226(d)	185,138(d)	260,392	644,705	897,024	1,218,257
(Per Cent of All Workers)	0.6%	0.6%	0.8%	0.9%	1.7%	2.2%	2.5%
County Agents, Etc.	.....	.....	.....	.....	.....	.....	5,597
Detectives	.....	.....	.....	.....	6,349	11,955	12,865
Firemen	.....	.....	.....	14,534	35,606	50,771	73,008
Guards and Watchmen	.....	.....	.....	.....	78,271	115,553	148,115
Institution Keepers	.....	.....	.....	.....	7,491	12,884	15,020
Marshals and Constables	.....	.....	.....	.....	9,073	6,897	9,350
Notaries, Justices of Peace, Etc.	.....	.....	.....	.....	7,445	10,071	11,756
Policemen	.....	13,384	74,629	116,056	61,980	82,120	131,687
Probation Officers	.....	.....	.....	.....	1,043	2,679	4,270
Public Officials	47,029	69,681	82,590	86,607	77,331	103,996	130,095
Road Building Workers	.....	.....	.....	.....	192,608	129,829	322,169
Sheriffs	.....	.....	.....	.....	7,134	10,683	15,338
Soldiers, Sailors, Marines	23,338	24,161	27,919	43,195	77,153	225,503	132,830
Street Cleaning Workers	.....	.....	.....	.....	9,946	11,196	16,673
Other Laborers	.....	.....	.....	.....	63,007	101,434	147,847
Other Public Service Workers	.....	.....	.....	.....	10,268	21,453	41,637
PROFESSIONAL SERVICE	332,179	543,511	881,783	1,148,155	1,614,012	1,999,168	2,927,322
(Per Cent of All Workers)	2.7%	3.1%	3.9%	3.9%	4.2%	4.8%	6.0%
Actors and Showmen	3,230	7,416	27,783	34,760	48,393	48,172	75,296
Architects	2,017	3,375	8,070	10,581	16,613	18,185	22,000
Artists and Art Teachers	4,081	9,104	22,496	24,873	34,104	35,402	57,265
Attendants and Helpers	.....	.....	.....	.....	18,601	31,712	170,384
Chemists, Metallurgists, Etc.	772	1,969	4,503	8,847	16,273	32,941	47,068

Group and Occupation	1870	1880	1890	1900	1910	1920	1930
	Number	Number	Number	Number	Number	Number	Number
Clergymen	43,874	64,698	88,203	111,638	118,018	127,270	148,848
Dentists	7,839	12,314	17,498	29,665	39,997	56,152	71,055
Designers, Draftsmen, Etc.	1,286	2,820	9,391	18,943	47,449	70,651	102,730
Journalists, Editors, Etc.	6,265	13,439	28,563	40,035	38,750	40,865	64,293
Lawyers, Judges, Etc.	40,736	64,137	89,630	114,460	114,704	122,519	160,605
Musicians and Music Teachers	16,010	30,477	62,155	92,174	139,310	130,265	165,128
Photographers	7,558	9,990	20,040	26,941	31,775	34,259	39,529
Physicians and Surgeons	62,448	85,671	104,805	132,002	151,132	150,007	159,920
Semi-Prof. and Recreation Workers	.....	.....	.....	.....	67,904	122,274	171,773
Teachers, Professors, Etc.	126,822	227,710	347,344	446,133	614,905	795,173	1,124,520
Technical Engineers	7,374	8,261	43,239	43,239	88,755	136,121	226,249
Veterinarians	1,166	2,130	6,494	8,163	11,652	13,494	11,863
Other Prof. Workers	701	.....	1,569	5,701	15,677	33,706	108,796
Domestic and Personal Service	1,208,142	1,522,025(d)	2,204,891(d)	2,777,610(d)	3,842,352	3,534,604	5,255,803
(Per Cent of All Workers)	9.7%	8.7%	9.7%	9.5%	10.1%	8.5%	10.8%
Barbers, Manicurists, Etc.	23,935	44,851	84,982	131,116	195,275	216,211	374,290
Boardinghouse Keepers	12,785	19,058	44,349	71,281	165,452	133,392	144,371
Cleaning and Dyeing Workers	.....	.....	.....	.....	14,860	21,667	88,118
Elevator Tenders	.....	.....	.....	.....	25,035	40,713	67,614
Garbage Men	.....	.....	.....	.....	4,227	5,481	9,163
Hotelkeepers and Managers	26,394	32,453	44,076	54,797	64,504	55,583	56,848
Janitors and Sextons	2,920	9,212	26,538	56,577	113,081	178,628	309,625
Laundry Workers	60,906	121,942	248,462	385,965	664,004	531,163	626,282
Midwives and Nurses	12,162	15,601	47,586	120,956	215,370	305,897	451,198
Porters	.....	.....	.....	.....	84,128	88,168	127,488
Restaurant Keepers, Etc.	50,767	83,078	46,474	206,407	230,281	131,907	165,406
Servants, Waiters, Etc.	1,000,417	1,155,351	1,546,827	1,715,874	1,949,791	1,721,543	2,649,167
Other Service Workers	17,856	40,479	15,597	34,637	116,344	104,251	186,233
Clerical	311,889	531,083	830,311	1,135,204	1,631,926	2,950,769	3,829,217
(Per Cent of All Workers)	2.5%	3.1%	3.7%	3.9%	4.3%	7.1%	7.8%
Bookkeepers, Cashiers, Etc.	61,740	105,575	159,374	254,880	486,700	734,688	930,648
Clerks (except stores) (e)	241,432	396,810	586,164	696,338	720,498	1,487,905	1,997,000
Messengers, Etc.	8,717	13,985	51,355	71,622	108,035	113,022	90,379
Stenographers and Typists	.....	14,713	33,418	112,364	316,693	615,154	811,190

*Based on unrevised census data. (A few census classifications have been re-arranged).

†1940 census figures:

Total U. S. Population	131,669,775
Total Gainfully Occupied	52,840,762
(Per Cent of Total Population)	40.1%

‡Laborers in these industries are included in general classification of laborers.

(a) Includes unpaid family workers and hired hands.
(b) Except locomotive and fire department.
(c) Approximate only.
(d) Revised figures.
(e) Prior to 1910, figures include some store and general clerks. Strictly comparable, therefore, only from 1910 to 1930.
.... No data available.

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